OLD!

retro GAMER™ Presents

ULTIMATE FLASHBACK To The 90s

JOURNEY BACK IN TIME TO GAMING'S MOST EXCITING DECADE!

Exploring the 16-BIT WAR

▼ MEGA MACHINES ◀ THE 3D REVOLUTION ◀ EXTRAORDINARY GAMES ▼ KILLER CHARACTERS

Digital Edition

FUTURE

FIRST EDITION

ULTIMATE FLASHBACK To The 90s

WELCOME

Are you ready to hop into the **Retro Gamer** time machine and travel back to the era when pixels and polygons took over the world? In this special edition from the makers of the world's greatest retro gaming magazine, we'll explore the time when videogames jumped into the third dimension, when PlayStation made the medium 'cool' and when epic cinematic masterpieces showed the potential of videogaming storytelling.

We'll explore the games that defined the decade, from hellish hits like *Doom* to epic flourishes such as *Metal Gear Solid*. We'll reignite the rivalry between Sega and Nintendo. We'll also spotlight the cultural touchstones of gaming that made the Nineties so great.

Sound fly? Wicked. Psych yourself up and join us on a time-bending journey you won't forget anytime soon!

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Back To The 90s

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FEW ERAS OF GAMING EXCITED LIKE THE NINETIES DID. THE DECADE SPANNED SEVERAL GENERATIONS OF HARDWARE, INTRODUCED A COLOURFUL RANGE OF CHARACTERS AND SAW GAMES GO TRULY MAINSTREAM. JOIN US THEN, AS WE COVER TEN YEARS OF GAMING EXCELLENCE

From the earliest days of the coin-op market to today's world of blazing-fast SSDs and ray-tracing, there has always been someone ready to tell you that *their* game, *their* hardware, is the next big thing. Videogames are always evolving, after all. But for those of us who lived through the Nineties, it's hard to deny that everything just seemed to move that little bit quicker, as the decade brought about possibly the most astonishing changes in gaming history.

Across the world, the console market became the focus of the gaming industry. Sega and Nintendo clashed with their 16-bit machines, creating a fierce rivalry that brought out the best in both manufacturers and made console development more attractive for third parties. Meanwhile, the handheld market that emerged in the final months of the Eighties truly took off, allowing gamers to take their hobby out on the road in a meaningful way. The arcades experienced a renaissance, too, thanks to *Street Fighter II*'s competitive revolution and the fighting game boom that followed.

The middle of the decade was also characterised by the race to succeed traditional graphical technologies. For a time, it looked as though the large capacity of CD-ROMs had convinced the industry that interactive video was the way forward, and Virtuality was extremely keen to sell its pods as the future of arcade gaming. But the true leap forward was the development of 3D graphics hardware that was fast enough to handle action games, initially as part of an arcade arms race between Sega and Namco, and by the middle of the decade in home consoles, as electronics giants like Panasonic and Sony saw an opportunity in the market.

It's fair to say that the Nineties was when gaming became a big business, and some will lament that. With the decline of the home computer scene, we lost the open platforms and bedroom-coding scene that produced so quirky, innovative games and developers. But the arrival of the money men was by no means exclusively negative – as team sizes ballooned and development budgets soared, players were treated to games of previously unimaginable scale and ambition. Just ask anyone who experienced first-hand the realism of *Virtua Fighter*'s animations, the sheer joy of movement in *Super Mario 64* or the cinematic flair of *Final Fantasy VII* – it seemed as though new ground was constantly being broken.

Success inevitably means mainstream attention, and not all of it was positive. But while some sought to create controversy over the violence in *Mortal Kombat* and *Doom*, we also saw our hobby consistently represented on TV. With seemingly unassailable titans like Commodore and Ocean ceasing to be, and new experiences like rhythm-action games rising to prominence, the Nineties was a tumultuous time for sure. But anyone who lived through the decade will remember how exciting it was, and will hopefully relive some of those thrills over the following pages. ▶

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MEGA MACHINES!

GAME GEAR

1990

Sega's first handheld console didn't boast loads of exclusive classics, but it was a good way to play popular games on the go. It sold millions of units, but was a distant second to the Game Boy.

AMSTRAD GX4000

1990

Giving the ageing CPC 464 a hardware refresh, Amstrad attempted to take on the console market. It quickly sank without trace, having arrived just as the 16-bit consoles started to dominate.

SUPER NINTENDO

1990

Faced with credible competition, Nintendo created an astonishingly capable console and provided it with countless classic games. This truly legendary machine lasted much of the decade.

NEO GEO AES

1990

SNK's powerhouse console was a dream come true for those who demanded arcade perfection. Though high prices meant it wasn't a mainstream product, the hardcore sustained it for years.

WATARA SUPERVISION

1992

This handheld tried to emulate the success of the Game Boy with its low price and modest hardware, but the software library lacked both the quality and big names of Nintendo's console.

AMIGA 1200

1992

The next-generation Amiga was a welcome step up over the original chipset and hosted some fantastic games, but the rise of the IBM compatible PC unfortunately sealed its fate.

FM TOWNS MARTY

1993

This console version of the classic Japanese computer had great hardware, but cost quite a lot and ended up losing the backing of Fujitsu's management before it could really gain traction.

AMIGA CD32

1993

Commodore's last roll of the dice was an attempt to challenge the console market. It was too late to make a difference – after just seven months on sale, its manufacturer went bankrupt.

PLAYDIA

1994

Bandai's console used a CD-ROM and boasted some impressive anime licensed games, almost all of which were edutainment-focused with a bit of FMV. As you can imagine, it wasn't great.

32X

1994

This Mega Drive upgrade module was supposed to keep players from buying 3DOs and Jaguars. Instead, it confused consumers who knew the Saturn was coming, and damaged Sega's brand.

SATURN

1994

Sega's real 32-bit machine was great at 2D and had some amazing arcade conversions, but was hard to develop for and handled 3D oddly. Though pretty popular in Japan, it flopped internationally.

PLAYSTATION

1994

Sony's debut hardware redefined console gaming. Though it initially impressed with conversions of hit 3D arcade games, more cinematic original games and a cool image sold it to over 100 million.

PIPPIN

1996

Apple and Bandai teamed up to create this console – another CD-ROM format with some lofty multimedia goals. Much of its library consists of non-game and edutainment software.

NINTENDO 64

1996

A late arrival and the decision to stick with cartridges meant that the N64 would never catch Sony, but raw 3D power and revolutionary game designs ensured it a permanent place in gamers' hearts.

GAME.COM

1997

Tiger Electronics scored versions of some major games for this handheld thanks to its licensing prowess, but weak hardware and a truly dreadful display have ensured that it lives in infamy.

GAME BOY COLOR

1998

For the first time ever, a handheld console offered both colour graphics and reasonable battery life, allowing Nintendo to extend the life of its old tech and continue its handheld dominance.

HARDWARE IS NOTHING WITHOUT GAMES, BUT IN THIS ERA OF UPHEAVAL, ASTONISHING TECHNOLOGICAL LEAPS GAVE DEVELOPERS AND PLAYERS SEEMINGLY INFINITE NEW POSSIBILITIES TO EXPLORE. WE PRESENT A SELECTION OF THE DECADE'S MOST NOTABLE MACHINES

PC ENGINE GT

1990

NEC took the already diminutive PC Engine hardware and created the first true handheld version of a home console. It was amazing to see, but also expensive and very power hungry.

MEGA-CD

1991

This expensive add-on gave the Mega Drive capabilities like sprite scaling and CD sound. Unfortunately, most of its developers were primarily interested in creating interactive movies.

PC ENGINE DUO

1991

With the decline of HuCard software in favour of CD releases, NEC integrated the PC Engine and its CD-ROM add-on together. It was only popular in Japan, but got some amazing games there.

CD-I

1991

Philips positioned this device as a multimedia CD-ROM player, but it received plenty of games. Unfortunately, some awful takes on Nintendo classics are what it's best remembered for.

LASERACTIVE

1993

Pioneer's pricey LaserDisc player accepted Mega Drive or PC Engine modules that allowed you to play exclusive Mega-LD and LD-ROM² LaserDisc games as well as standard carts and HuCards.

3DO

1993

One of the earliest 3D-capable consoles had some interesting games and an innovative business model, but more capable systems had arrived by the time the price became reasonable.

JAGUAR

1993

Atari offered 3D gaming at a reasonable price, but struggled to source quality software to draw players to the platform. Three years later, Atari limped out of the console market for good.

NEO GEO CD

1994

Freed from the shackles of cartridges, SNK could finally offer affordable Neo Geo games – just as the dawn of the 3D era drew the attention of players away from high-end 2D hardware.

PC-FX

1994

Compared to the competition, NEC's successor to the PC Engine excelled at FMV and little else. This unmitigated disaster sold poorly and ended NEC's time as a console manufacturer.

VIRTUAL BOY

1995

This tabletop console was a rare misfire from Nintendo. Though it could produce a convincing illusion of depth, it suffered from gaudy red and black graphics, and gave its users headaches and nausea.

LOOPY

1995

Casio's unique console was marketed towards girls and featured a built-in sticker printer, around the time of the purikura boom. Only ten games were released, and the system never made much impact.

NOMAD

1995

This fully portable version of the Mega Drive naturally boasted a great library, but had the same problems with bulk and battery life that the Game Gear did, and never left North America.

NEO GEO POCKET

1998

SNK released its monochrome handheld just a week after the Game Boy Color, and quickly realised it was outmatched. Only ten games were released before the console's colour successor arrived.

DREAMCAST

1998

Sega's successor to the Saturn was an affordable and developer-friendly machine. Unfortunately, precarious finances and lack of trust from players meant that it would be the company's last.

WONDERSWAN

1999

Bandai hoped that this cheap and cheerful black and white handheld, designed by the late Gunpei Yokoi, would topple its colour competition. It didn't, but it did find a following in Japan.

NEO GEO POCKET COLOR

1999

Following an abortive Japan-only monochrome model, SNK released this great 16-bit handheld internationally and was developing a niche market before financial troubles cut it short.

FROM BEDROOMS TO FRONT ROOMS!

OVER THE COURSE OF THE NINETIES, THE RISE OF THE CONSOLES MADE VIDEOGAMES INTO A BIGGER PHENOMENON THAN THEY'D EVER BEEN BEFORE, WITH PLAYGROUND RIVALRIES GIVING WAY TO UNPRECEDENTED MAINSTREAM CREDIBILITY

At the beginning of the Nineties, gaming was still very much stuck in the Eighties. In the UK, the most popular gaming systems were still the home computers, with many a youngster still enjoying the delights of the Spectrum and Commodore 64. Elsewhere in the world, Nintendo's NES dominated gaming. All of these systems were technically from the early Eighties, and many players were getting ready to move on, with hardware manufacturers trying to tempt them to leap to their machines.

"I worked on *CVG* in 1989, and during that year things like PC Engine had already come out and Mega Drive was around," says Paul Glancey, a veteran of games journalism who later moved into game production. "The Amiga had got past its slow-ish start, and it was getting more of the big titles than the ST. I think that point, in 1990, people were trying to make a choice between Amiga and import consoles." Many players would learn about those consoles via *CVG*'s Mean Machines section, which had grown in popularity since its 1987 introduction. "We were talking to computer game publishers like Ocean and saying, 'Are you bringing this out on Nintendo or Sega?' They were already interested in what they could do on that hardware, so we knew that consoles were going to be a big thing in the next couple of years, and that's what prompted Julian Rignall to expand Mean Machines into its own magazine," Paul remembers.

Sega introduced the Mega Drive to Europe in 1990, and a year later it was sufficiently popular that EMAP launched the dedicated magazine *MegaTech*, with Paul at the helm as editor. "It was all done with a very small staff in a bit of a rush," he recalls. Nintendo followed with the SNES in 1992, and a console war soon erupted – though as Paul recalls, "Sega had a bit more of a presence in the UK. Virgin Mastertronic were pretty hot on marketing the Sega consoles, and they just kind of had a bit more credibility, they had a bit more of a cool edge than the Super Nintendo at the time." That was a key strategy for Sega, which was hoping to age up the console gaming audience both in the UK and in North America, where it was neck and neck with its rival.

The combined force of the rival 16-bit machines pushed UK console gaming revenues past those of computer games that year, as it became clear that players had chosen their way

» [Mega Drive] A strong emphasis on sports games helped the Mega Drive to age up the gaming demographic.

RIP IN MEMORIAM

THE FAMILIAR NAMES WE LOST AS CONSOLE GAMING EXPLODED IN POPULARITY

MASTERTRONIC ocean Commodore U.S. GOLD ATARI

ATARI CORPORATION

Jack Tramiel had inherited plenty of history when he bought Atari's assets from Warner Communications in 1984, and that came to an end in 1996. The company's line of home computers had ceased to be profitable, and its Jaguar console was severely outclassed. With losses mounting, the company withdrew from the scene.

COMMODORE INTERNATIONAL

With PCs taking over the business computing market and consoles taking over gaming, Commodore tried to transition towards console manufacturing in the Nineties but failed to break through. Its best shot was the Amiga CD32 in 1993, but by then, the decline was irreversible, and Commodore filed for bankruptcy in 1994.

OCEAN SOFTWARE

Having gained an incredible reputation during the 8-bit years for licensed games and arcade conversions, Ocean successfully transitioned to consoles, particularly the Nintendo market. However, the Manchester-based publisher was swallowed in a merger with Infogrames in 1996, and the brand ceased to be used after 1998.

US GOLD

Another big name from the 8-bit era, US Gold successfully transitioned to console publishing, particularly the Sega range in the early years. The company also survived just long enough to push out PlayStation games such as *Olympic Soccer*, before being acquired with distributor CentreSoft by Eidos for £17.6 million in 1996.

MASTERTRONIC

The erstwhile budget game titan was deep into selling Sega products by 1991, with almost all of the company's turnover coming from the console market. To that end, Sega bought the company to function as its European branch, handling marketing and distribution, with the small publishing arm spun off as Virgin Games.

forward. "The Amiga was still quite expensive, but if you had a computer it was probably easier and cheaper to get games because it was easier to pirate games, I guess," says Paul. "But it felt like there was a higher quality of software on the consoles – fair enough, an Amiga can do all kinds of things and it does pretty good games, but look at the Mega Drive *Ghouls 'N Ghosts*, for example. The dream then was always having an arcade-perfect version of the game, and although Amiga tried to do that and did quite well in a lot of examples, the Mega Drive came along and it was like having arcade games – there were no lumpy bits, no loading, and it felt like the real deal in a lot of ways."

Consoles had risen to prominence, and major game launches could bring in millions in days. But this would all be taken to the next level in the next generation. "The Saturn and PlayStation came along and they were expensive, but again there was still that 'I'm going to get arcade-perfect versions of these games that I love', like *Sega Rally* or *Ridge Racer*," says Paul. But Sega soon lost its cool, and it was Sony that truly changed things by aiming primarily at adults. "That generation who'd grown up, they'd maybe got a Mega Drive or a SNES when they were 12 or 13, they were getting a bit older and maybe had a bit of money," says Paul. "Also with PlayStation, that whole Nineties rave scene – Sony were able to plug into that, and that gave them a little bit of an edge over Sega. Again, it just became 'these are the coolest machines to have right now.'"

The adult audience certainly wasn't for everyone – firmly focused on family entertainment, Nintendo sold a respectable number of N64 consoles, though it did fail to surpass the sales of the SNES. However, there was no getting around the success of the PlayStation, which eventually became the first home console ever to sell over 100 million units. The credibility of the Sony brand and pop culture ties like the licensed music of *WipEout* made it something you'd be happy to have in your living room. And then, just as the consoles eclipsed the home computers, they began to supplant the arcades, too. "This is only my perception, but you could have an arcade experience without having to leave the house," replies Paul when asked why that happened. "At that point, arcades were starting to feel the pinch. They had to put these sit-down ride machines, or be a big-screen gun game or something like that, so that it would be something where you'd go 'I'll play this because I can't play this at home'." By the end of the decade, home and arcade hardware had reached near parity with the Dreamcast and NAOMI arcade board.

The consoles had taken over, then – but in the process, there were more gamers out there than ever before, and wider public acceptance of them too.

» [SNES] Having great versions of arcade hits helped consoles prevail over the 16-bit computers.

» [PlayStation] Sony made further inroads with adult gamers, thanks to games with mature themes like *Resident Evil*.

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MAINSTREAM MOMENTS

THE KEY EVENTS THAT SHOWED THAT THE WORLD WAS TAKING NOTICE

1992

The launch of *Sonic The Hedgehog 2* receives widespread international television news coverage.

1993

Time Magazine features Sonic, Mario and more on its 'Attack Of The Videogames' cover feature.

1995

Sony secures the installation of the PlayStation Room at the Ministry Of Sound nightclub.

1997

Lara Croft appears on the front cover of fashion and pop-culture magazine *The Face*.

1999

Sony ships 71.82 million PlayStations by year end, making it the best-selling home console to date.

» [N64] Family games will always have a place in the mainstream, as *Super Mario 64* deftly showed.

» [Saturn] *Tomb Raider* caught the imagination of the wider public, though Sega's console felt little benefit.

SPECTACULAR SUPERSTARS!

AT ONE TIME IT SEEMED THAT EVERYTHING NEEDED A MASCOT, AND PREFERABLY ONE BASED ON A REASONABLY OBSCURE MAMMAL. BUT AS WELL AS EMBRACING THAT TREND, THE NINETIES REDEFINED WHAT A VIDEOGAME MASCOT COULD BE

Sometimes, one major hit can transform the entire gaming world. It happened with *Space Invaders* in the Seventies, it happened with *Super Mario Bros* in the Eighties, and in the early Nineties, *Sonic The Hedgehog* near-single-handedly propelled Sega to international credibility and cool. "When *Sonic* came out on Mega Drive, it gave it such a massive kick – it was quite a young audience, but it was quite an aspirational thing. It just looked cool," says Paul Glancey, formerly of *CVG* and other magazines. "As a character and as a game, it had such a massive impact, and certainly it gave Sega a massive advantage in certain ways. Hedgehog with attitude versus cute plumber – maybe *Mario* was the better game, but Sonic just had a bit more of an edge to him, and that seemed important at the time."

A craze quickly kicked off in the wake of that success, and there were a lot of copycat characters. "Yes, some dreadful ones," Paul adds. Furry creatures with some form of distinguishing trait quickly flooded the market. Bubsy had his fully voiced wisecracks, Rocky Rodent had his punk hairstyle and Gex had an unfortunate addiction to TV. Of course, while animal characters were the safe bet – you could always find weirder examples elsewhere, like Sega's bizarre and frankly unnecessary hardcore pencil, Wild Woody.

Having a killer mascot wasn't a major anxiety on the SNES, where Mario's place at the head of the table was secure, but on the home computers, every platform star seemed to be touted as a Sonic-beater. "There was a bit of… 'pollution' seems like a strong word, but a lot of the Amiga titles ended up being converted and they maybe weren't such high quality either. They were decent, they would make good Amiga games, but on Mega Drive, they just didn't look quite as good," Paul says.

Of course, mascots weren't just limited to platform games, either. Plenty of famous faces lent their star power to spin-offs as necessary, whether they were battling in puzzle games like *Kirby's Avalanche* or actually punching each other's faces off as in *Sonic The Fighters*. But with that kind of star power, mascots were often roped into dubious junk-food marketing schemes – James Pond would happily hawk Penguin biscuit bars at you, Zool really wanted you to have some Chupa Chups, and Cool Spot was literally a fizzy drink logo on legs. With in-game marketing being very new territory, that was the sort of thing that developers could get away with.

» [Amiga] Zool wasn't actually intended as a challenger to Sonic and Mario, but was received as such by the press.

By the mid-Nineties, reviewers seemed to be a little bit sick of the platform genre and every cuddly critter within it. Burnt out from years of Awesome Possum and Radical Rex, only something truly astonishing like *Donkey Kong Country* could break through the barrier of cynicism. But after the mid-Nineties, our understanding of mascots began to change. A new wave of characters attached to brand-new 3D gameplay revived interest in the genre, and while the likes of *Crash Bandicoot* and *Spyro The Dragon* sold like hotcakes, Sony never felt the need to officially adopt a mascot. Meanwhile, Lara Croft proved that a fairly regular-looking human who relied on guns and grit could be the perfect face of a franchise, and maybe even an industry.

And of course, arguably the biggest mascot franchise of the Nineties doesn't have a single face, nor is it primarily a platform series. *Pokémon* is an RPG series, and even amongst the first 251 monsters introduced in the Nineties, there are plenty of series mascots beyond Pikachu that inspire more love and affection amongst their fans than many leading characters ever have. Let's be honest, poor old Croc doesn't really have anything on Snorlax, let alone the likes of Squirtle and Charizard.

These days, we don't see so many new mascots because console manufacturers don't feel they need them. But if the fan appeal of spiritual successors like *Yooka-Laylee* and the nostalgic success of games like *Sonic Mania* and *Crash Bandicoot: N Sane Trilogy* are anything to go by, the survivors of the Nineties will be around for a long time to come.

» [N64] Pokémon can step into any genre they want – puzzle games would just be another conquest.

BANJO & KAZOOIE

1998

The bird and the bear are huge favourites with the N64 fraternity, with two excellent platformers on that console to their credit. They've been rather quiet since, with their Xbox 360 outing *Nuts & Bolts* dividing fans, but their inclusion in *Super Smash Bros Ultimate* caused many to rejoice.

SONIC

1991

Sega's spiky speedster is arguably *the* mascot of the Nineties, propelling the Mega Drive to incredible success. His absence on the Saturn was missed, and his glorious Dreamcast return in 1998 led to a controversial run of 3D games. Recent Hollywood success proves that he's pretty evergreen.

HALL OF HEROES

THE MOST MEMORABLE MASCOTS OF THE NINETIES, AND WHAT THEY'RE UP TO NOW

LARA CROFT

1996

A controversial choice? Perhaps so. Lara isn't your typical furry forest creature, but the aristocratic archaeologist was as ruthlessly merchandised as any of them, arguably even becoming a mascot for gaming as a whole. She's still very popular today, in games as well as films and much more.

CRASH BANDICOOT

1996

Naughty Dog's brash marsupial instantly found a fan base thanks to his incredibly polished platforming shenanigans on Sony's PlayStation. Several sequels followed and he's now back in the limelight thanks to a remaster of his original three games and a brand-new sequel released in 2020.

EARTHWORM JIM

1994

An ordinary earthworm who happened to stumble on an extraordinary super suit, Jim's absurd adventures were a perfect parody of platform game conventions. He's fallen on hard times since the mid-Nineties; will a comeback on the Amico be the thing that marks his return?

KIRBY

1992

The beauty of this little pink puffball is that he can be whatever you want to be, by inhaling enemies and swallowing their powers – so he sucks, but in the best possible manner. He's versatile too, taking in golf, pinball and more, and has been in work constantly since his Game Boy debut.

RAYMAN

1995

Rather than using a real or mythical animal as a basis, Ubisoft's hero is just a dude with a slightly disconcerting lack of limbs. He's starred in some great games despite that, and even survived debuting on the Atari Jaguar, but he hasn't been seen since *Rayman Legends* from 2013.

SPYRO

1998

This fiery fellow starred in one of the more open 3D platformers on the PlayStation, and a string of sequels followed. He ended up in the wilderness, a bit part player in the 'toys-to-life' franchise *Skylanders*, but a recent remake of the original trilogy has rehabilitated his image somewhat.

MASCOT MANIAC

DALEY EVE JOHNSON LOOKS BACK AT THE MASCOTS THAT INSPIRED HER TO BECOME A GAME DESIGNER AT YOOKA-LAYLEE DEVELOPER PLAYTONIC GAMES

Which is the first videogame mascot you can remember becoming a fan of? Did you first encounter them through their games, or something else?
It's gotta be Donkey Kong, the one in *Donkey Kong Country*, the grandson or son (depends which side of the debate you sit on) of the arcade/NES *Donkey Kong*. I knew of Mario too, but kid me deemed a gorilla wearing a red tie much more appealing than a moustachioed-mushroom-munching man. That's not to say I don't love Mario, I do. I've changed since then. I love you, Mario.

Though mascot characters appeared in all kinds of games during the Nineties, they were most commonly platform game stars. Why do you think that was?
A lot of it had to be influenced by Mario, right? The *Super Mario* games were system-sellers, and so this idea of platforming game plus cool mascot was proven to have some real value and appeal. It worked for Nintendo, it was going to work for others! There's also something to be said for how important theming is for platforming games. They contain a medley of environmental art, collectibles, lives, baddies and bosses. You had to have an anchor for all of that – and that anchor was the mascot.

Do you think it's fair to say that the move to 3D-capable consoles helped to revitalise waning interest in mascots?
In the cases of games like *Spyro*, *Crash* and *Banjo-Kazooie*, what they all have in common is that they were new IPs *plus* they had brand-new bangin' 3D graphics. It was a whole glorious generation of even more polygons and new characters to get to know. As for the mascots who came into 3D from 2D, there was some excitement in seeing the characters realised in a whole extra dimension. My mind was blown when I rolled around in a 3D space as Donkey Kong for the first (and 100th) time.

Some Nineties mascots are still going strong today, but plenty of others didn't last. If you could give any a second chance, which would you choose and why?
Cool Spot – I know this guy was a walking 7-Up ad, but he had style. Who else is going to murder giant crabs with the unbridled force of fancy lemonade? Plok threw limbs before it was cool, I miss him. He said words like 'diddled' and got unreasonably angry about his flag being stolen. If I could swap Rayman out for Plok I would. Gex – Gex is terrible, and that's exactly why I want him back. Bubsy did come back for a bit, but I'm not sure it went very well for him. If you ask me, Bubsy is a cursed mascot, even his creators hated him, but I don't. Let's give him a third chance?

In recent years, mascot platformers have experienced a resurgence in popularity – not just old favourites, but new games like *Yooka-Laylee*, too. Why do you think they're proving so popular again?
I'm thinking (hoping) it's a general shift toward feel-good games. I feel like people can really stress themselves out with intense, dramatic, gloomy games, but in recent years I've started to see a change. People are becoming more receptive to chilled out and cutesy games and I reckon this at least plays some part in it!

MAGNIFICENT MAGAZINES!

THE NINETIES SAW A DELUGE OF NEW GAMING MAGAZINES COVERING EVERY FORMAT – AND A BRAND OF ANARCHIC JOURNALISM WE WON'T SEE THE LIKES OF AGAIN

BAD influence!
FIVE GREAT COMPOS
Official magazine of TV'S most watched video games show
Andy and Violet battle their way through the latest games
JOIN THE GAME CREATORS
WHAT'S HOT AND WHAT'S NOT

What made Nineties videogame magazines so special? For Paul Monaghan of the retro gaming podcast *Maximum Power Up*, it was all about the writers. "Some of the biggest names, like Jaz Rignall, Gary Penn, Steve Jarratt and Gary Whitta, started out in the Eighties, yet by the time the Nineties hit, they were like rock stars to some of us," he says. "They were names you knew and could trust."

Paul and cohost Phil Hockaday began *Maximum Power Up* in 2015 with the aim of covering various gaming topics, but the podcast has developed a reputation for its magazine coverage: so far, they've interviewed around 40 names from retro games magazines. For Paul, it's about recording an oral history of the era. "The games magazines of the Nineties were a very special time and place," he says, "and hopefully the interviews I have done will help explain why."

As consoles rose in popularity, the Nineties saw a boom period for games magazines, and major publishers often had several titles covering the same format. One of the first magazines to capitalise on this console enthusiasm was *Mean Machines* in 1990, and its anarchic style and superstar cast of writers made it an instant hit. It lasted just two years, but it made a massive impact. "Almost 30 years on, the magazine is still highly thought of," says Paul.

Newsagents' shelves groaned under the weight of the vast range of Nineties gaming mags. Some were short-lived: titles like *Maximum*, *Games-X*, *Bad Influence! Magazine* and *Arcade* lasted just a year or two. But some, like *GamesMaster* (1993-2018) and *PC Zone* (1993-2010), lived to a grand old age, and *Amiga Format* survived until 2000, long after the Amiga itself keeled over and died. A few Nineties magazines are still around today, like *PC Gamer* and *Edge*.

Some magazines burned especially bright before their untimely demise. Paul has a soft spot for the multiformat magazine *Zero* thanks to its mix of clever humour and talented writers, including Matt Bielby and Jonathan Davies, who both went on to join the phenomenal *Amiga Power*. *Zero* folded in 1992 after just three years. But Paul's personal favourite from this era is *Super Play* (1992–1996), with its beautiful anime-style covers and focus on Japanese games.

One key facet of Nineties magazines was the increasingly elaborate freebies that graced their front covers. Every other magazine seemed to have tips books, stickers or VHS tapes, and memorably, issue four of *Nintendo Magazine System* came with the full CD soundtrack to *Street Fighter II*. Atari ST and Amiga magazines also often had more than one cover disk. "At one point, *Amiga Action* had FOUR disks on the cover, and even needed thicker paper to help protect the cover from ripping," says Paul.

But in the end, what made Nineties magazines stand out was the sheer quality of the writing. "The likes of Jaz Rignall, Paul Davies and Richard Leadbetter helped mould magazines like *CVG*, *Official Sega Magazine* and *Mean Machines Sega* into must-read titles," says Paul. "The passion was always so easy to see."

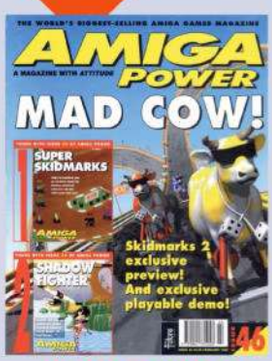
RECOMMENDED READING

THE MAGAZINES THAT DEFINED THE NINETIES

MEAN MACHINES

Launch Year: 1990

Former *Zzap!64* editor Julian 'Jaz' Rignall convinced the EMAP bosses to let him create a magazine dedicated to the exciting new consoles emerging from Japan, and *Mean Machines* was born, becoming an instant sell-out hit. It was split into *Mean Machines Sega* and *Nintendo Magazine System* in 1992.



AMIGA POWER

Launch year: 1991

The Mighty Beings of *Amiga Power* dedicated themselves to 'disseminating the truth', and their harsh but fair reviews often led to feuds with publishers. The magazine was packed with in-jokes and running gags, and later issues were filled with entertainingly bizarre features on topics like Office Joust.

SUPER PLAY

Launch year: 1992

Wil Overton's beautiful covers reflected the growing Western fascination with anime in the Nineties, and *Super Play* made a name for itself through its extensive coverage of JRPGs and imported SNES games. "In a pre-internet but import-friendly era, the magazine was like a bible for so many gamers," says Paul.

EDGE

Launch year: 1993

Most Nineties games magazines were aimed at children and teenagers, but *Edge* was focused squarely at adults, with a more serious take on cutting-edge technology. Issue 1 famously came in a mysterious black bag, and the decision to remove author bylines was the antithesis of the rockstar journalist trend of the time.

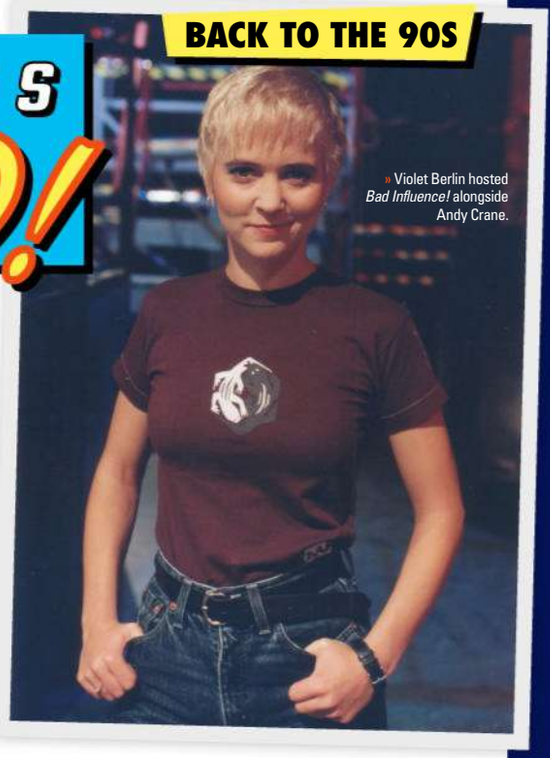
OFFICIAL UK PLAYSTATION MAGAZINE

Launch year: 1995

With a circulation upwards of 380,000 by 1999, *Official UK PlayStation Magazine* was one of the best-selling magazines in the country, helped by its phenomenal cover discs. "*OPM* did such a great job with the official licence the other PlayStation magazines were forced to battle for second place," says Paul.

THE REVOLUTION IS TELEVISED!

BACK TO THE 90S



» Violet Berlin hosted *Bad Influence!* alongside Andy Crane.

THE NINETIES SAW A GOLDEN AGE OF GAMING TV, AS VIDEOGAMES FOUGHT THEIR WAY INTO THE TV SCHEDULES. YET FEW SUCH SHOWS WOULD REMAIN BY THE DECADE'S END

"Hiya, welcome to *Bad Influence!*, the only place you'll be able to see moving screenshots of the very latest games." This was Andy Crane's opening line on the first episode of ITV's *Bad Influence!*, and it summed up the novelty of seeing videogames on television. After years of making do with static images in magazines, now gamers could see previews of upcoming releases in motion – and it was revelatory. Particularly so with regards to early 3D games like *Star Fox* and *Super Mario 64*, which looked blocky and flat in magazine screenshots, but were breathtaking when seen in full flow on TV.

Violet Berlin wrote and presented the first regular videogame reviews on UK TV in around 1991, as part of the *Cool Cube* youth magazine show on the short-lived satellite service BSB. "It was full of stars," she says of the show. "We had Take That, Zoe Ball was there with me, Michaela Strachan presented. It was quite a big deal, but no one saw it because it was only satellite."

She recalls that the producers were desperate for content to fill six hours of live TV every week, and one suggested that they should do videogames because his nephews were really into them, so some reps from Nintendo came in to do a demonstration. "I got all this kit to take home," she recalls, "and I became completely and instantly hooked from the moment that I started playing *Castlevania* on the NES."

Bad Influence! followed in 1992 with Violet and Andy as presenters, while *GamesMaster* debuted on Channel 4 earlier in the same year, and *Games World* followed on Sky One in 1993. Suddenly, videogames had arrived on TV in a big way. Whereas *Games World* and *GamesMaster* focused on competitions, *Bad Influence!* was much more keen on showing the games and reporting on the latest technology. "The reason the executive got the idea [for the show] off the ground was because *Bad Influence!* was billed as a *Tomorrow's World* for kids," reveals Violet.

However, videogames weren't well understood by the TV establishment back then. "[They were] still treated in a way that you wouldn't treat other media, if you think of how we talk about films or music," says Violet. And videogame TV shows were baffling to game companies, too. Violet notes that it was a struggle to get permission from publishers to show game footage, and their PR departments tended to favour magazines over TV, even though *Bad Influence!* had an audience of five million. "There were exceptions, but generally it didn't feel like we were that high in the pecking order," she says.

Then, as suddenly as it started, the Golden Age of Gaming TV came to an abrupt end, as one show after another was cancelled in the late Nineties. "There was no games TV, and then there was games TV, and then there was no games TV again," says Violet. "And I feel really lucky that I caught that games TV train in the Nineties: it was absolutely brilliant, and really a very, very unique time."

» Following *Bits*, the presenters' careers went in various different paths.

» Star of *GamesMaster*, Dominik Diamond always had lots to say… about pants.

TV HIGHLIGHTS

THE MEMORABLE SHOWS THAT DEFINED THE NINETIES

GAMESMASTER

Years: 1992–1998
Presenters: Dominik Diamond, Dexter Fletcher, Patrick Moore

GamesMaster had competitive events at its heart – partly because it was commissioned by the head of Channel 4's sports programming. Astronomer Patrick Moore dispensed wisdom as the titular GamesMaster, and a parade of rockstar games journalists provided commentary while Dominik Diamond dropped plenty of double entendres.

BAD INFLUENCE!

Years: 1992–1996
Presenters: Violet Berlin, Andy Crane

This 20-minute CITV show focused more on showcasing games and the latest innovations rather than the videogame competitions of its contemporaries. Z Wright provided reports from the US on emerging tech like virtual reality, while Nam Rood (Andy Wear) offered gaming tips to the 'slimy furtlers' at home from his shed.

GAMES WORLD

Years: 1993–1999
Presenters: Bob Mills, Andy Collins

Sky One's *Games World* took the form of an elimination contest, with kids competing to win an arcade machine. The first series featured Diane Youdale (Jet from *Gladiators*) as The Games Mistress, but she was later replaced with a section featuring Big Boy Barry (Alex Verrey) and Lesley Luncheonmeat (David Walliams).

P174 Teletext 174 Apr 1 21:18:03
Man Diary
COMMUNITY COPPER
After just one day I've stopped being a student. I have instead got a job as a community policeman. It's my responsibility to promote good karma within my local area.
I have already posted feathers and flowers - both a symbol of peace - through letterboxes all across the estate. That isn't to say my methods have worked instantly. Last night I had to stop a gang of youths from tipping a cow into the gutter, and I caught an

DIGITISER

Years: 1993–2003
Presenters: Mr Biffo (Paul Rose), Tim Moore (Mr Hairs)

Strictly speaking, *Digitiser* wasn't a TV show (even though it was on the telly), but it was essential daily viewing for more than a million UK gamers. Its winning blend of reviews, news and irreverent nonsense left a lasting impression on a generation of gamers, who still can't look at a bin without thinking of Mr T.

BITS

Years: 1999–2001
Presenters: Emily Booth, Aleks Krotoski, Emily Newton Dunn

Sneaking in right at the end of the decade, just after most other videogame TV shows had been cancelled, *Bits* offered a more adult, anarchic take on videogaming. Its late-night Channel 4 slot meant it could provide racier content than its pre-watershed predecessors, including an episode on sex, drugs and violence.

HANDHELD HEAVEN!

TAKING YOUR FAVOURITE GAMES OUT ON THE ROAD WAS A BIG PART OF PLAYING IN THE NINETIES, AS THE MAJOR MANUFACTURERS TOOK TO MAKING HANDHELD CONSOLES. IT DIDN'T ALWAYS GO WELL FOR THEM, BUT THEIR EFFORTS LEFT AN UNFORGETTABLE LEGACY FOR GAMERS

» [Lynx] Atari Lynx owners couldn't always be guaranteed the big games, though *Lemmings* was an excellent exception.

» [Neo Geo Pocket Color] While SNK's games hardly looked bad, it was the massive battery life that distinguished its hardware.

There are so many times in life when your only option is to sit down and wait. You could be passing time before seeing the doctor, or in the back of a car during a long journey. Whatever the situation, filling these waits suddenly got a lot better as handheld consoles grew in popularity. Of course, handheld videogames weren't an invention of the Nineties, not by a long shot. Whether you want to cite the MB Microvision or the popularity of standalone devices like Tiger Electronics' games or Nintendo's Game & Watch series, it's clear that players could enjoy gaming on the go throughout the Eighties. The big difference was that while handheld gaming had been around for a while, handheld consoles as we have come to know them today came of age in the Nineties.

The stage for the handheld boom was set in 1989 when Nintendo introduced its Game Boy. Atari introduced the Lynx later that year, and Sega followed in 1990 with the Game Gear, both of which offered full-colour displays. Atari and Sega both tried to offer an experience comparable to that of home consoles, providing full-colour backlit LCD displays. Nintendo famously went for a more modest design with a greyscale display, and would ultimately outsell all of its competitors by a wide margin.

All too often, the Game Boy is said to have won out because of its battery life, and while there's some truth to that statement, it does a massive disservice to the console's brilliant games. The Game Boy's display was so different to home consoles that it practically demanded bespoke experiences, and Nintendo delivered superbly. If you wanted the full *Zelda* experience, you'd need a Game Boy to pick up *Link's Awakening*. *Mario* fans would naturally want to see the unique stages of *Super Mario Land 2: 6 Golden Coins*, as well as its new villain Wario. *Donkey Kong* was expanded from its original arcade form into an incredible puzzle platformer. That's before we even get to excellent original titles like *Kirby's Dream Land* and *Mole Mania*, or third-party favourites like *Gargoyle's Quest* and *Batman*.

That's not to say that owners of the other systems missed out on great games, mind. While Lynx owners did often have to wait quite a while between games, being able to take excellent versions of *STUN Runner*, *California Games* and *Klax* out with you was revelatory. Game Gear owners received plenty of conversions from other Sega platforms, particularly the Master System that its hardware was based on, as well as fantastic exclusive entries in the *Sonic The Hedgehog*, *Shinobi*, and *Shining Force* series. But both companies elected not to follow up on their handheld consoles, and by the mid-Nineties, Nintendo was the only purveyor of portable gaming.

But what really cemented Nintendo as the master of the handheld console was how it kept the Game Boy relevant for over a decade. It had held off both dedicated handheld designs as well as miniaturised home consoles like the PC Engine GT and Sega Nomad, but by early 1996 the old system was looking a little long in the tooth. The arrival of *Pokémon* – a game designed around the system's portability – revived interest in the venerable system almost single-handedly. Plenty of Game Boys were dusted off, and many more were purchased brand-new to experience the

CALLING CARDS

THE SIGNATURE GAMES THAT WERE EMBLEMATIC OF THE DECADE'S BEST HANDHELDS

STUN RUNNER

Lynx

Frankly, it feels like it shouldn't have been possible to authentically replicate this arcade game on a handheld, but the sprite-scaling capabilities of Atari's powerful system gave a convincing enough sense of 3D to pull it off. Shooting through tunnels at an incredible pace feels even more amazing when it's on a system you can put in your bag.

SHINOBI II: THE SILENT FURY

Game Gear

Joe Musashi's first handheld outing was very good, but the sequel was even better as Sega's ninja master sought to rescue his fellow ninjas from their captors. Each one has different abilities, expanding not only your combat possibilities but the areas you can reach. It looks great and the level design is top notch.

THE LEGEND OF ZELDA: LINK'S AWAKENING

Game Boy

It's easy to forget that Link's handheld debut was the last game to use the original formula before *Ocarina Of Time* redefined players' expectations of the series, but it used it to perfection. Link's journey to Koholint took him out of his comfort zone, but the action-RPG game design puts fans of the series firmly in theirs.

BONK'S REVENGE

PC Engine GT

While the PC Engine GT can play almost every HuCard, some of them work better than others due to the system's screen. Ideally, you want to try something with bold colours and chunky sprites, and platform hero Bonk delivers those graphical qualities in all of his adventures – including this second one, which is the best of the lot.

popular monster-battling RPG. Kids around the world would join in the fun as translated versions came out later in the decade – and many of them would do it on the Game Boy Color, introduced in 1998 as the first major upgrade to the near decade-old platform.

That's what made handheld consoles so different from the rest of the gaming scene at the time. Companies weren't preoccupied with making more powerful systems, but more efficient ones. The kind of games you could play on a Game Boy Color or Neo Geo Pocket Color weren't tremendously different to those you could have played on a Lynx – but that was the beauty of it. Handheld consoles weren't just a way to keep the kids quiet – as the last bastion of 2D gaming, they were a haven for games as they used to be, and plenty of coding veterans kept themselves busy making portable games. From returning favourites like *R-Type DX* and *Paperboy* to downscaled interpretations of contemporary classics like *Tomb Raider*, the handhelds of the Nineties had a game to offer for just about any fan of old-school design – and that remains true today.

» [Game Gear] Being able to pass a long car journey with *Out Run*'s short car journeys was good fun.

» [Game Boy] Plenty of third-party publishers helped the Game Boy to become a success with games like *Batman*.

» [Game Gear] Sonic's star power helped Sega to make a decent attempt at handheld success.

» The Sega Nomad was almost like having a Mega Drive in your hands.

POKÉMON GOLD/SILVER

Game Boy/Game Boy Color

Sneaking out in Japan just before the end of the decade, the second generation of *Pokémon* games is amazing for just how much was squeezed into a single cartridge. Over 250 monsters, an enormous world map and new features make them enormous RPGs – and if you hate colour, they'll even run on an original Game Boy.

METAL SLUG: 2ND MISSION

Neo Geo Pocket Color

SNK's classic run-and-gun formula was hardly broken, but some subtle adjustments for portable play made it a true handheld classic. With brand-new level layouts and the frustration-reducing addition of health restoring items, as well as the ability to track which prisoners you've rescued, the game is a unique experience.

RETRO FUTURISM

ELLIOT COLL MODS AND REPAIRS NINETIES HANDHELDS ON THE RETRO FUTURE YOUTUBE CHANNEL, AND HERE HE EXPLAINS WHY HE'S SO FASCINATED WITH THEM

How did you become interested in retro handheld consoles?

In 2009, I got an issue of the *Official Nintendo Magazine*, and at the back was this double-page spread which had retro handheld consoles. My mum used to buy me this every month, and this one made me absolutely obsessed with all the retro consoles. So for my birthday that year, a friend of mine gave me his dad's Game Boy Color. It was pretty much then that I started collecting original Game Boys and stuff.

What do you find appealing about the older handhelds?

I think the beautiful thing about these devices is that the games are so simple, the soundtracks are often really good. I think we now have access to fantastic mods that make the experience less of a gimmick and more of a well-rounded gaming experience that people are fully immersed into and enjoy.

With other options out there, how do you feel about playing these games on original hardware?

You're not really playing these things now to be blown away by the actual experience of the specifications of the original hardware. It's solely now for living through nostalgia, or once you modify an original handheld, getting to actually fully experience the games as they were meant to be experienced, without any limitations. Now, you're not thinking "Oh, today's a crap day to play my PlayStation 5, there's not enough sun," whereas back then there were certain things to take into consideration, like not having backlights.

What would you consider to be some of the essential mods for older systems?

The number-one thing is obviously the screen. It's now a solderless process, which it wasn't before, you can now even buy shells on eBay – basically, you buy the components and you just fit them together, all you need is a screwdriver. You used to have to cut out the shell, and, in some cases, you used to have to CNC the shell to get a perfectly accurate cut. Within a year, it went from being an incredibly difficult thing, and a very expensive thing to do, to now anyone can do it with £100 and come out with a stunning Game Boy at the end of it. So screen is the number-one thing. To make it custom, people like changing the shells and the buttons – there's so much variation now that there wasn't before, you can get just about any colour under the sun, and any shade of colour.

What are some of your favourite games for Nineties handhelds?

For the original Game Boy, *Link's Awakening*. The feeling of completing that game was unbelievable, I literally grabbed my mum and pulled her into the room to see the ending screen. I think there's something so amazing about the ocarina playing the music alongside the other orchestra instruments. I like the original Game Gear *Sonic The Hedgehog* – fantastic game. Neo Geo Pocket, I like *The King Of Fighters*, that's a great game. If I'm honest, *Tetris* is always the game that's loaded into a Game Boy because it's just a pick up and play, zero effort game. *Mole Mania* I've been playing recently: a little hidden gem for the Game Boy. And I've just got a legitimate copy of *Trip World* for the Game Boy as well.

» Here we have a small selection of the many handhelds that Elliot has modded on his channel.

RISE OF THE PC!

INNOVATIVE GAMES, BLEEDING EDGE TECHNOLOGY AND NEW WAYS TO PLAY WITH OR AGAINST OTHER PLAYERS DEFINED WHAT IT MEANT TO BE A PC GAMER IN THE NINETIES, BUT WHAT WAS IT THAT MADE PERSONAL COMPUTERS – AND OF COURSE WINDOWS – THE LEADING PLATFORM?

» [PC] Every PC gamer of the decade remembers their first Resonance Cascade. This screenshot doesn't even need a name: you know it.

Whichever way you look at it, the Nineties was rife with technological advances for the games industry as a whole, and while some might point to the PlayStation, 3D graphics in general or the burgeoning internet as some of the biggest leaps, the PC was at the forefront of this sudden shift in opportunities for gaming. The start of the decade looked completely different by the end, with well-known names like Commodore, Sinclair and Amstrad being the recognisable manufacturers only to be cast aside in favour of the behemoth that was Windows and PC gaming. "The PC was definitely not the hardware platform of choice for game-makers or players," explains Louis Castle, one of the founders of Westwood Studios and a developer that defined a large part of PC gaming in the Nineties. "As the PC became the dominant platform for home computing, game makers could not ignore the audience size."

This was the key reason that PC gaming began to become so popular early on in the Nineties because where Atari and Sinclair and the like all focused solely on gaming, Microsoft instead targeted a more well-rounded, functional and capable home computer. As those numbers grew, so too did developer interest in the platform and there were some benefits that came with it. "Windows owes a good deal of gaming platform success to Chris Hecker who created the original WinG libraries, which allowed games to access some of the hardware acceleration that was built into PCs to make Windows be more performant," says Louis. "Direct Draw and the whole DirectX Suite of APIs followed, which allowed PC gaming to happen." With these APIs, a lot of the development heavy lifting could be handled natively on PC which meant developing on PC – and its hodge-podge of potential hardware – didn't require so much effort spent on compatibility.

Admittedly, there were other areas that needed work for the PC platform to take off, so when IBM released its video graphics array (VGA) at the turn of the decade, supporting 256 colours rather than the previous 16 colours, the PC could really start being taken seriously. "Until then, PC couldn't really compete on a graphics level," says David Brevik, the man behind one of the decade's biggest releases: *Diablo*. "It just wasn't considered to be much of a platform until that point. But it wasn't long after this, with the advent of the very first 3D cards that came out, and that was right around the time of *Quake*. You had the 3dfx cards that could do 3D, polygonal rendering." This new hardware opened up great potential for the PC platform, but David points instead to the algorithms that could better utilise these new 3D cards as the most important aspect that turned PC gaming into the leading platform for visual fidelity. "Especially things like the BSP tree from John Carmack," adds David, "and being able to draw faked 3D things with *Doom* and true 3D polygons in *Quake* on a high frame-rate on a computer … Those kinds of things were the biggest influences on PC gaming in the Nineties."

» [PC] *SimCity 2000* was easily one of the biggest releases of the decade, offering the same sort of sequel improvements as *Civ II* did for *Civilization*.

» [PC] Everyone was talking about *Doom*, and the fact that it was available as shareware meant that interest in PC gaming exploded almost immediately.

» [PC] Blizzard's work on *StarCraft* and building it with multiplayer in mind kept PC gamers hooked, and has built a diehard esports community around it.

And on top of all this was this new-fangled 'internet' thingy coming into prominence, which didn't just enable PCs to send emails and browse the web, but even play games with other players in real time. *Neverwinter Nights* (1991) was the first online RPG that used graphics, however primitive they may have been, to allow players to connect to others within the game. It was monumental for gaming, and a concept that was used further and further until the seminal release of the first 'true' MMO, *EverQuest*, in 1999. "A wave of consumers now had access to the internet, which transformed the way multiplayer games could operate," says Louis. "Prior to Windows 95, getting any game to work on the internet was a challenge. Our game *Monopoly* used the Windows 95 internet APIs to have a multiplayer launch event in Japan, the US and Europe." It's hard to imagine if the likes of *Quake*, *Diablo*, *StarCraft* and the RTS genre, in general, would have had the massive appeal they did if it wasn't for the opportunities that the internet presented to PC gamers – and in that sense, it was likely the key reason for the Nineties being seen as the Golden Age of PC gaming. "Being able to do multiplayer gaming was a huge factor and the big difference maker for PCs," adds David, "and consoles were way behind on that."

» [PC] *Doom* may well have created the modern-day FPS, but it was the true 3D of *Quake* that dominated the Nineties.

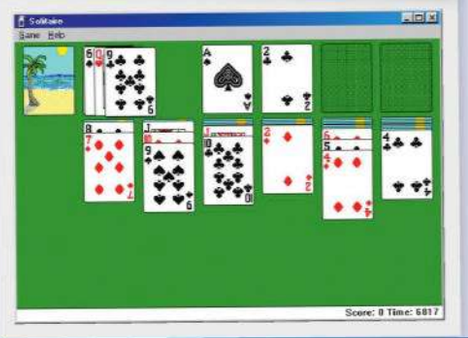
I GOT 95 PROBLEMS, BUT WINDOWS AIN'T ONE

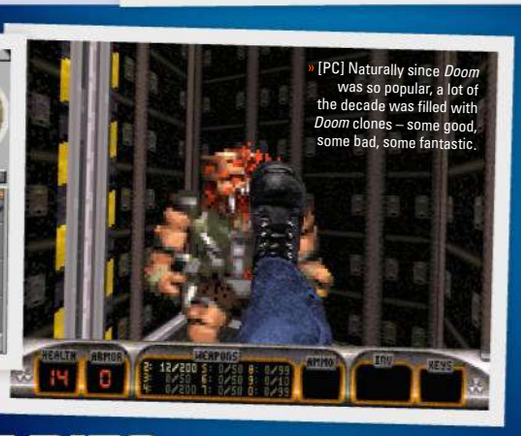
HOW MICROSOFT'S WINDOWS 95 CHANGED THE FACE OF PC GAMING

There is rarely space to talk about operating systems in a multiformat gaming publication such as this. But there's something about Windows 95 that rattles those nostalgia bones: whether it's the familiar logo and startup sounds, that horrible teal desktop background or just all those hours spent on *Minesweeper*. Win 95 was the starting point for a generation of people just entering the digital age.

But it did a lot for gaming, too. While Microsoft was still pushing the business nature of its software, there were still some dedicated gamers within the company that saw it necessary to improve the platform for game developers and users. This took the form of DirectX, and while this API wasn't initially anything to dethrone OpenGL (which *Quake* ran on), it would receive continued support from Microsoft throughout the lifespan of Windows 95 to such a point that it is now a fairly essential part of any PC gamer's repertoire of must-download *things* when starting on a new rig.

As a tangent to this was DirectPlay, the communications-based branch of DirectX. This, naturally, was crucial to PC gaming at the time, since it meant no longer was it necessary to lug your machine around to a mate's house for a weekend LAN party, but instead, you could connect to other players via the internet. DirectPlay was a key part of easy connectivity, and that's saying nothing of how Win 95 had completely removed the hassle of connecting to the internet in the first place.





» [PC] Naturally since *Doom* was so popular, a lot of the decade was filled with *Doom* clones – some good, some bad, some fantastic.

» [PC] Impressions Games had a very successful run of city-building games all featuring the same core mechanics. *Caesar III* was the most notable, but other games also focused on Greece and Egypt.

PUSHING THE BOUNDARIES

THE BIG-NAME 3D CARDS THAT POWERED THE NINETIES ON PC

3DFX VOODOO GRAPHICS PCI

RELEASED: 1996

There was a time when 3dfx was the one to beat when it came to PC 3D cards, and the name 'Voodoo' is still spoken with reverence. This was the first 3D card that 3dfx released and though it would release additional models throughout the decade, this was a mainstay for many PC gamers. John Carmack once called this card "the benchmark against which everything else is measured". Lofty praise indeed.

NVIDIA RIVA 128

RELEASED: 1997

Nvidia has always been a big player in the PC graphics business, but in the Nineties it was often playing second fiddle to 3dfx. The RIVA 128 was the company's attempt at throwing big numbers at the problem, though there were other downsides that held it back. However, it was the first graphics card to include 3D acceleration on the board, and in the era of *Quake* deathmatches, any assistance in pumping out 3D graphics was a big seller.

3DFX VOODOO2

RELEASED: 1998

Considered to be a great deal better than anything available at the time, the successor to the popular Voodoo had a number of competitors to beat and did so ably. Primarily, this was due to the high frame-rates it was capable of, a matter that on paper the RIVA 128 should've been able to beat but rarely could. The Voodoo2 was also the first graphics card to introduce SLI, spawning that smug breed of gamer that always has to tell you when they have two GPUs installed in their PC.

NVIDIA GEFORCE 256

RELEASED: 1999

Though it was expensive, this was capable of improving frame-rates for games at the time by up to 50%. It began the technical journey towards the practice of having the 3D card take the processing work from the CPU, which is now commonplace. Delays to 3dfx's Voodoo 4 was enough to give the GeForce 256 an advantage in the volatile early days of the GPU market, and the rest became history… 3dfx went bankrupt, and Nvidia bought it up.

THE 90s

A DECADE OF DEFINITIVE GAMES!

THE NINETIES SAW GAMING GO THROUGH A HUGE TRANSFORMATIVE CHANGE THAT MAY NEVER HAPPEN AGAIN. IT LED TO INNOVATION, EXCITING NEW IDEAS AND THE GENERAL EXPANSION OF THE VIDEOGAME INDUSTRY. JOIN US AS WE REVISIT THIS INCREDIBLE DECADE AND THE MANY HIT GAMES IT SPAWNED

WORDS BY NICK THORPE AND DARRAN JONES

It's quite possible we'll never have a decade like the Nineties in gaming again. Think about it. When was the last time you can recall a span of ten years that saw not only spectacular growth within the industry itself, but an incredible variety of consoles, systems and games to enjoy?

In the early Nineties, you had the rise of 16-bit systems and handhelds, which quickly gave way to 32-bit machines like the PlayStation, and then powerful systems like the Dreamcast in the decade's twilight years. That's an exponentially huge leap in technology in a short space of time, and that technology unlocked all manner of interesting games as the decade progressed.

Humble 8-bit computers were still offering gaming experiences like *Lemmings*, *Turrican* and *Mayhem In Monsterland* in the early Nineties, while even the ancient Atari 2600 managed to last until 1992. Nintendo's Game Boy, which had debuted overseas in the summer of 1989, became ubiquitous with handheld gaming during the decade, effortlessly seeing off powerful competitors like the Atari Lynx and Game Gear, while home computers like the Atari ST and Amiga proved they still had plenty to offer over their expensive PC counterparts (at least, for a short time).

Technology marches ever onwards though and polygons (which were admittedly around in the previous decade) began to dominate, with arcade developers like Namco and Sega using them to power their gaming experiences to make them feel even more realistic. In a way, this aggressive development helped accelerate the demise of the traditional arcade. After all, one of the main reasons gamers visited arcades was to receive an experience they couldn't emulate in homes – that became less of an issue as 3D-capable systems like the PlayStation were able to replicate arcade games with a previously unmatched level of authenticity.

This strive for realism also brought controversy with the mainstream media commenting on the violence in games like *Night Trap*, *Mortal Kombat* and *Grand Theft Auto* far more than it had in previous decades. Digitised graphics and the enhanced power of consoles and 3D-accelerated PCs offered an unrivalled sense of 'realism' that may look laughable today but had plenty of critics twitching about how much games were changing.

It wasn't just games that became unrecognisable. There was huge growth within the industry itself. More complicated visuals in the mid-Nineties and onwards saw teams expand in size to accommodate, while many classic developers of the Eighties struggled to adapt to the demands of 3D gaming and closed or were swallowed up by their rivals.

The following pages will not only examine each individual year of the Nineties but will also celebrate 90 of the games that arguably defined the decade for so many of us. How many did you get to experience?

INTERVIEWEES

JAZ RIGNALL
Editor, *Mean Machines*

ANDY PALMER
Founder, Arcade Club

TOM ZITO
President and CEO, Digital Pictures

TOM HALL
Cofounder, id Software

KEITH HAMILTON
Lead programmer, *Grand Theft Auto*

MARTIN EDMONDSON
Cofounder, Reflections

GAVIN RUMMERY
Lead programmer, *Tomb Raider II*

CHRIS SCHILLING
Editorial director, *Lost In Cult*

PAUL DAVIES
Editor, *Computer & Video Games*

MINH LE
Co-designer, *Counter-Strike*

DEFINING GAMES!

SUPER MARIO WORLD
NINTENDO EAD

■ With its meticulous level design and tight controls, Mario's SNES debut became the poster child for 2D platforming. Three decades on, it's still unbeatable.

KLAX
ATARI GAMES

■ Atari wasn't wrong when it said, "It is the Nineties and there is time for *Klax*." Its frantic, tile-stacking hit was converted to a huge number of home systems.

TURRICAN
RAINBOW ARTS

■ Manfred Trenz's beautifully polished shooter proved there was still plenty of life in the C64 and that it could easily compete with its console contemporaries.

JOHN MADDEN FOOTBALL
PARK PLACE PRODUCTIONS

■ An easy-to-use interface, accessible controls and challenging AI transformed EA's 1988 release into a global console mega hit, which is still going strong today.

THE SECRET OF MONKEY ISLAND
LUCASFILM GAMES

■ *Monkey Island*'s delightfully quippy script and lovable characters cemented Lucasfilm's reputation for cleverly written adventures and shaped the very genre itself.

WING COMMANDER
ORIGIN SYSTEMS

■ Chris Roberts' *Star Wars*-inspired epic ushered in a bold new era of space combat games that put as much effort into their frantic dogfights as they did storytelling.

F-ZERO
NINTENDO EAD

■ It might have lacked polygons, but *F-Zero*'s blistering speed and Mode 7 trickery proved that home systems could deliver exciting, arcade-like experiences.

PGA TOUR GOLF
STERLING SILVER SOFTWARE

■ Clever mechanics, excellent physics and slick TV-like presentation helped revolutionise digital golf in a way that just hadn't been possible on earlier systems.

DEVIL CRASH
COMPILE

■ With a compelling graphical theme and features a real table could never provide, *Devil Crash* was a great pinball game that the PC Engine import crowd loved.

» [Amiga] *Speedball 2*'s futuristic sports action mixed brutality and style to hook players.

» [C64] With games like *Rainbow Islands* still arriving, the popularity of the 8-bit computers makes sense.

1990

As the new decade dawned, most players in the UK were playing games on home computers. The 16-bit Amiga and Atari ST were tempting more players to upgrade their hardware, with releases like *Kick Off 2*, *Speedball 2*, *Star Control*, *Super Cars* and *Wings* all impressing players. Those still playing the venerable 8-bit machines still had plenty to enjoy though, thanks to games like *Flimbo's Quest*, *Creatures*, *Lords Of Chaos* and Dizzy's continuing adventures, as well as great arcade conversions like *Midnight Resistance* and *Rainbow Islands*.

Player preferences were changing, however. The launch of *Mean Machines* magazine reflected increased interest in the console market and it wasn't hard to see why players were hooked. Highlights of the year included *Dr Mario* and *Mega Man 3* on the NES and *Alex Kidd In Shinobi World* on the Master System, while import devotees swore by games like *Bomberman* on the PC Engine. The Game Boy made its European debut, while Japanese players gained the Game Gear and Lynx owners enjoyed conversions of *RoadBlasters*, *Rampage* and *Klax*.

Computer manufacturers could see the way the tide was turning, but the Commodore 64 Games System and Amstrad GX4000 were limp efforts based on outdated hardware, paling in comparison to the 16-bit machines – the Mega Drive finally launching in Europe and the Super Famicom in Japan. Sega's machine boasted games like *Castle Of Illusion*, *Thunder Force III* and *Strider*, while Nintendo's new system roared out of the gate with offerings like *Pilotwings* and *Actraiser*.

In the arcades, SNK's new Neo Geo MVS hardware attracted operators with its affordable cartridge-based games, such as *NAM-1975* and *Magician Lord*. Players who fancied an extended spell with the games could rent the home-console equivalent, the Neo Geo AES. Atari Games also had some success with *Pit Fighter* and *STUN Runner*, with their still-novel digitised sprites and polygonal graphics doing plenty to impress arcade regulars – though the latter is a far stronger game.

JAZ RIGNALL ON THE CONSOLE WARS

"Sega vs Nintendo wasn't a 'trend'. It was simply another chapter in the ongoing tradition of kids' tribalism around specific brands. This kind of tribalism also applies to car brands, graphic cards, camera brands and almost anything else you can think of where people can spend money on an item that has a competitor and they want to feel like they've made the best choice. It was kind of fun winding people up about it back in the day, but honestly? As someone who enjoyed games on all systems, it was always really annoying. Sure, everyone should have their favourite systems, but if you've reached adulthood and have yet to figure out all systems have great games and can deliver huge amounts of fun, you really are a sad sack."

» [SNES] New hardware allowed for new possibilities in Link's third adventure.

» [Arcade] Co-op beat-'em-ups were big business in the arcades of the early Nineties.

1991

If you stepped into an arcade in 1991, you couldn't help but notice that beat-'em-ups were in vogue, particularly licensed ones like *Teenage Mutant Ninja Turtles: Turtles In Time* and *The Simpsons* by Konami, as well as Sega's *Spider-Man: The Video Game*. However, it was the monster success of *Street Fighter II*'s one-on-one fisticuffs that helped to reverse a trend of arcade decline. *Street Fighter* director Takashi Nishiyama's own spiritual successor, SNK's *Fatal Fury*, helped to drive the fighting game boom.

In tech terms, the console manufacturers were each touting their ambitious CD-ROM plans. Nintendo worked with Sony to develop a SNES-compatible system, only to announce a deal that it had secretly signed with Philips in the summer. NEC bolstered its existing PC Engine CD-ROM drive with the Super System Card, with *Dragon Slayer: The Legend Of Heroes* serving as an early highlight for the new format. Sega launched its Mega-CD in Japan at the end of the year, with *Sol-Feace* being its most exciting game.

Cartridges may not have held the same futuristic appeal, but they hosted extremely fine games. The SNES arrived in North America and quickly captivated players with games like *SimCity*, *Super Castlevania IV*, *Super Ghouls 'N Ghosts*, *Super R-Type* and *Super Tennis*, as well as *Final Fantasy IV* and *The Legend Of Zelda: A Link To The Past* in Japan. The Mega Drive became a phenomenon thanks to a certain speedy hedgehog, but also gained strong games like *EA Hockey*, *Shining In The Darkness*, *Streets Of Rage* and *ToeJam & Earl*.

On the home computers, sequels like *Super Cars II* and *Turrican II: The Final Fight* delivered reliable fun, while *Hunter* was an early demonstration of how much fun sandbox game design could be. Geoff Crammond released the first game in his *Formula 1 Grand Prix* series, and Team17 announced its arrival on the Amiga with *Full Contact* and *Alien Breed*. Duke Nukem made his platform game debut on the PC, and *The Shadow Of Yserbius* became one of the first graphical online RPGs.

ANDY PALMER ON CAPCOM'S ARCADE HIT

"Street Fighter II occupies rarefied air in the realms of arcade titles. It quite literally reinvented the arcade landscape whilst giving birth to the modern esports scene with its onus on competitive play. Not many games can say that. Unfortunately, its success led to the death of many classic machines. As operators scrambled to take advantage of the game's popularity, they destroyed a lot of dedicated machines by converting them into *Street Fighter II* cabinets. The worst I've personally seen is a hideous conversion of *Space Invaders*. How? Don't ask!"

DEFINING GAMES!

LEMMINGS
DMA DESIGN

■ As deviously difficult as its protagonists were cute, *Lemmings*' blend of useful character skills and freeform puzzle design saw it swarming to multiple systems.

STREET FIGHTER II: THE WORLD WARRIOR
CAPCOM

■ Capcom's epoch-making fighter reinvigorated both the fighting genre and the arcade scene, thanks to its distinctive brawlers and excellent fighting engine.

SONIC THE HEDGEHOG
SONIC TEAM

■ Sega's attitude-laden answer to Mario highlighted the power of its 16-bit console and paved the way for a slew of copycat anthropomorphic clones.

NEVERWINTER NIGHTS
BEYOND SOFTWARE

■ Don Daglow's online take on *Dungeons & Dragons* grew alongside its dedicated community, leading to it becoming part of AOL's popular subscription service.

STARBLADE
NAMCO

■ The cutting-edge visuals and bold, brash spectacle of *Starblade* proved that arcades could still offer exhilarating experiences that weren't available elsewhere.

ANOTHER WORLD
DELPHINE SOFTWARE

■ Eric Chahi's ambitious and influential adventure set new standards at the time, thanks to its well-observed cutscenes, clever puzzles and innovative mechanics.

MICRO MACHINES
CODEMASTERS

■ Originating on the NES, Codemasters' inventive top-down party game turned a conventional home and its everyday objects into thrilling racing circuits.

SID MEIER'S CIVILIZATION
MICROPROSE

■ Why build a city when you can create an empire? Sid Meier's strategy gem set an industry standard, even if it would significantly evolve with its sequels.

ROAD RASH
ELECTRONIC ARTS

■ EA's vehicular combat game saw gamers trading punches, upgrading their bikes and outracing the police as they careened through the detailed Californian countryside.

DEFINING GAMES!

SUPER MARIO KART
NINTENDO EAD

■ Originally planned as a two-player *F-Zero*, *Super Mario Kart* effortlessly highlighted the versatility of Nintendo's everyman plumber and helped create a new subgenre.

DESERT STRIKE
ELECTRONIC ARTS

■ Subtitled *Return To The Gulf*, Mike Posehn's lack of videogame experience didn't stop him from crafting a shooter that was as acclaimed as it was controversial.

NIGHT TRAP
DIGITAL PICTURES

■ As ambitious as it is flawed, *Night Trap* might not have elevated early FMV games, but it was instrumental in helping to create gaming's current rating system.

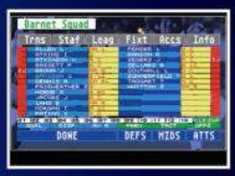
VIRTUA RACING
SEGA AM2

■ Although it wasn't first off the grid, AM2's magnificent polygon-based racer offered a sense of lifelike realism that few other racing games could match.

ALONE IN THE DARK
INFOGRAMES

■ Inspired by the works of Edgar Allan Poe and HP Lovecraft, Frederick Raynal's historical yarn dabbled with survival horror, long before Capcom coined the term.

CHAMPIONSHIP MANAGER
INTELEK



■ Kevin Toms scored first, but the Collyer brothers' own take on the beautiful game found much greater success and rewrote the armchair footballer rulebook.

WOLFENSTEIN 3D
ID SOFTWARE

■ By revitalising a beloved stealth game, id helped lay the blueprints for one of gaming's biggest genres, while also giving the world a mechanically augmented Hitler.

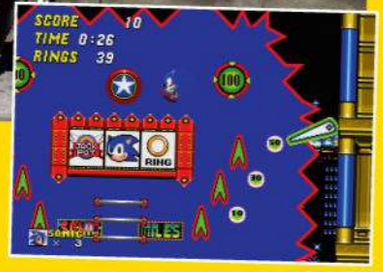
DUNE II: THE BUILDING OF A DYNASTY
WESTWOOD STUDIOS

■ As influential as the in-game spice your vehicle harvests, Westwood's strategy title laid much of the groundwork for the modern RTS genre, but it wouldn't perfect it…

STREETS OF RAGE 2
SEGA CS2

■ Sega's mighty sequel introduced new characters, new moves and offered a bone-crunching fighting engine that even arcade contemporaries rarely bettered.

» [Arcade] Buckets of blood made *Mortal Kombat* a target of self-appointed moral guardians.



» [Mega Drive] The massive launch of *Sonic The Hedgehog 2* was enough to earn TV news coverage.

1992

Could videogames be harming kids? People genuinely started to ask this question, thanks to the rise of games that combined violent themes with digitised images of real people, such as the arcade hits *Lethal Enforcers* and *Mortal Kombat*. That bloody brawler had plenty of competition from *Art Of Fighting*, *Fatal Fury II* and *World Heroes* as the fighting genre continued to heat up.

1992 was a banner year for fans of point-and-click adventures, thanks to games like *Dune*, *Indiana Jones And The Fate Of Atlantis*, *Lure Of The Temptress* and *Monkey Island 2: LeChuck's Revenge*. Other home computer hits this year included the shoot-'em-up *Apidya*, *Pinball Dreams* and the mighty *Sensible Soccer*. The next-generation Amiga 1200 was also introduced this year (while the ZX Spectrum was officially retired), but by this point, the IBM-compatible PC was dominating the computer market.

What's more, this was the year that console games overtook computer games in the UK market. The Mega Drive's strong year included games like *Alisia Dragoon*, Flashback, *Kid Chameleon* and *Ecco The Dolphin* and was capped off with the blockbuster launch of *Sonic 2*. *Contra III: The Alien Wars*, *Super Aleste* and *Super Star Wars* were a few of the titles that delighted SNES owners, while *Dragon Quest V* and *Final Fantasy V* were both making a big splash in Japan.

The Game Boy received the platformers *Super Mario Land 2: 6 Golden Coins* and *Kirby's Dream Land*, while *Shinobi II: The Silent Fury* and *Defenders Of Oasis* were the year's highlights on the Game Gear. Lynx owners enjoyed games like *Toki* and *Switchblade II*. In the world of CD-ROM games, a glut of newly possible FMV-based games proliferated, including *Sewer Shark*, the *Make My Video* series and conversions of Eighties LaserDisc arcade games like *Cobra Command*. However, it was *Night Trap* that gained the most attention – again, by way of controversy over violence.

The popularity of gaming invaded other media as well, with the TV shows *GamesMaster* and *Bad Influence* debuting this year to great acclaim.

TOM ZITO ON THE RISE OF FMV GAMES

"As Andy Warhol wisely noted, 'In the future, everyone will be world-famous for 15 minutes.' Inversely, Digital Pictures was world-famous for about 15 minutes in the Nineties, simply because we were trying something new: FMV gaming. It was fun while it lasted but, like everyone else, even we realised the gaming limitations imposed by shooting film were incompatible with great gameplay. Hence the demise of the format and, sadly, the company. That said, I'm still amazed and flattered when a random person hears my name and starts to talk about how *Night Trap* changed their life…"

[Amiga] *The Chaos Engine* was a stellar outing on the 16-bit computers, and later consoles.

» [Mega Drive] Treasure arrived on the scene with the creative, technically masterful *Gunstar Heroes*.

1993

This was arguably the year that CD-ROM games finally started to hit high gear and the new magazines *GamesMaster, Edge* and *PC Gamer* were there to cover them. Mac owners got the first taste of *Myst*, while games like *The 7th Guest*, *Star Wars: Rebel Assault* and *Star Wars: X-Wing* sold strongly on the PC. *Batman Returns*, *Final Fight CD* and *Sonic CD* showed that there was more to the Mega-CD than FMV, and the PC Engine Super CD game *Castlevania: Rondo Of Blood* was arguably the best in the series to date.

The console world was starting to become overrun with mascot platformers, with notable examples including *Bubsy In Claws Encounters Of The Furred Kind*, *Aero The Acro-Bat* and Konami's excellent *Rocket Knight Adventures*. Even the venerable 8-bit consoles got some great ones, like *Land Of Illusion* on the Master System and *Kirby's Adventure* on the NES. Fortunately, there were plenty of other great games to enjoy – *Gunstar Heroes*, *Ranger-X*, *Shinobi III*, *Jungle Strike* and *Castlevania: The New Generation* on the Mega Drive, and *Super Turrican*, *Super Mario All-Stars*, *Final Fight 2*, *Super Bomberman* and *Plok* on the SNES. Different versions of Disney tie-in *Aladdin* appeared on both machines, both being very good.

Strategy gamers were well catered for on computers between *Master Of Orion*, *SimCity 2000* and *Syndicate*, while adventure fans got to enjoy *Day Of The Tentacle*, *Return To Zork*, *Sam & Max Hit The Road* and *Simon The Sorcerer*. Further hits included *Cannon Fodder*, *The Chaos Engine*, the astonishing Amiga platformer *Lionheart* and the highly ambitious space sim *Frontier: Elite II*. *Mayhem In Monsterland* also delighted loyal C64 owners.

As the year continued, major 8-bit home software died off, the FM Towns Marty and Amiga CD32 repurposed computers into consoles to limited success, while the Atari Jaguar and 3DO both offered 3D games at home – though launch games like *Cybermorph* and *Crash 'N Burn* didn't get them off to the best start. Meanwhile, Namco's System 22 and Sega's tests of the Model 2-powered *Daytona USA* introduced texture-mapped 3D to arcades, heralding a new era of visual fidelity. ▶

TOM HALL ON THE IMPACT OF DOOM

"*Doom* was the end zone of making 3D games for us. We did games like *Hovertank*, *Catacomb 3-D* and *Wolfenstein 3D*. *Doom*, with the new tech, finally textured the whole environment, in apparent 3D, completing the visual experience. It was bizarre to be making a 'new thing' as each decision, weapon choice, level, was genre-defining, by definition. We were working insanely hard, in a self-imposed death-crunch mode of 12-16 hours a day, seven days a week. People had '*Doom* Dreams'. I did. Your dream world WAS the world of *Doom*. It had something special, an internal, dreamlike logic, that persists to this day."

DEFINING GAMES!

VIRTUA FIGHTER

SEGA AM2

■ Home systems offered polygon fighting games first, but they were all beaten into submission by the sheer fluidity and dynamism of AM2's spectacular brawler.

RIDGE RACER

NAMCO

■ *Ridge Racer*'s sensational texture-mapped 3D visuals helped trigger an arcade clash between Namco and Sega that dominated the rest of the decade.

NBA JAM

MIDWAY

■ With its intensive pace, recognisable digitised players and ridiculous number of Easter eggs, Midway's classic set a new standard for sports-themed arcade games.

MORTAL KOMBAT II

MIDWAY

■ Like Capcom's *Street Fighter II*, Midway's sequel bested its predecessor in every way. It also helped stoke a fierce rivalry between the two series that continues to this day.

STARWING

NINTENDO EAD/ARGONAUT SOFTWARE

■ The introduction of the SNES' Super FX chip let Argonaut greatly expand on its *Starglider* success, and brought popular 3D gaming to 'underpowered' consoles.

ZELDA: LINK'S AWAKENING

NINTENDO EAD

■ A distinct non-Hyrule setting, whimsical characters and inventive dungeons proved that Nintendo's minuscule Game Boy could still offer epic gaming experiences.

MYST

CYAN

■ Nowadays it would be seen as a 'walking simulator', but back in 1993, *Myst* was a gateway into another world that seemed only possible thanks to CD-ROM technology.

DOOM

ID SOFTWARE

■ *Doom*'s impact was immense, its smart level design and sensational visuals not only reinforced the importance of id Software, but also the fledgling FPS genre.

FIFA INTERNATIONAL SOCCER

EXTENDED PLAY PRODUCTIONS

■ It lacked the pace of *Sensible Soccer*, but an official licence and a distinct isometric viewpoint still pushed EA's footy fanfare into the videogame Premier League.

DEFINING GAMES!

DONKEY KONG COUNTRY
RARE

■ The pre-rendered visuals, sublime music and polished gameplay of Rare's *Donkey Kong* reboot proved that 16-bit systems could still compete with their 32-bit cousins.

SENSIBLE WORLD OF SOCCER
SENSIBLE SOFTWARE

■ A gigantic career mode, tight controls and a huge management mode turned Sensible's hit into the definitive 2D football game.

SUPER METROID
NINTENDO R&D1

■ An evocative look, haunting score, compelling level design and carefully crafted weapons created a blueprint for a generation of indie developers to build on.

ELDER SCROLLS: ARENA
BETHESDA SOFTWORKS

■ *Arena*'s vast open-world setting, huge number of explorable dungeons and realistic day/night cycle helped make it a believable world that few games could match.

UFO: ENEMY UNKNOWN
MYTHOS GAMES/MICROPROSE

■ Julian Gollop's strategy epic shook off development difficulties to propel wargaming into the public eye and form a blueprint for other would-be developers.

THE KING OF FIGHTERS '94
SNK

■ SNK dug deep into its vault to create a flexible team brawler that not only celebrated its past, but created a template for other studios to follow.

THE NEED FOR SPEED
EA CANADA

■ While it could be considered a four-wheeled take on *Road Rash*, EA's racer stood apart thanks to its licensed cars, smart use of FMV and unrivalled realism.

THEME PARK
BULLFROG PRODUCTIONS

■ Although management-style games had existed long before *Theme Park* came along, none had combined humour, construction and finance juggling in quite the same way.

DONKEY KONG
NINTENDO EAD

■ Nintendo's own Donkey Kong update saw him star in a remake of his arcade hit, which then transformed into a puzzler that led to the later *Mario Vs Donkey Kong* series.

» [PC] *Magic Carpet* demonstrated just how far computers had come in terms of 3D graphics.

» [Arcade] Three years on, the updated *Super Street Fighter II Turbo* could still draw a big crowd.

1994

The arcade fighting game boom reached its apex this year, with *Super Street Fighter II Turbo* and *Mortal Kombat II* going head to head. *Tekken* challenged *Virtua Fighter 2* in the 3D arena, with the likes of *Art Of Fighting 2*, *Samurai Shodown II*, *Darkstalkers*, *The King Of Fighters '94*, *Killer Instinct*, *Primal Rage* and *X-Men: Children Of The Atom* all thrilling fight fans. *Cruis'n USA* and *Virtua Cop* also pushed 3D arcade games forward in the racing and lightgun genres respectively.

This year marked the introduction of widespread videogame age ratings, administered by the ESRB in North America and various national bodies in Europe. SNES hits included *Final Fantasy VI* and, in Japan, *Earthbound*, while Mega Drive players got to enjoy *Sonic 3* and *Sonic & Knuckles*, *Contra: Hard Corps* and *Streets Of Rage 3*. *Earthworm Jim* and *The Lion King* found success on both platforms. *Tempest 2000* and *Road Rash* showed the Jaguar and 3DO respectively in their best light, while the remake of *Donkey Kong* for the Game Boy was a brilliant update.

Commodore's mid-year bankruptcy saw the C64 discontinued and signalled the last gasps of the Amiga, but games like *Ruff 'N' Tumble* and *Shadow Fighter* still entertained. First-person games like *Doom II*, *System Shock* and *Heretic* on PC, and *Marathon* on Mac continued to achieve success, while *Magic Carpet* advanced the cause of 3D visuals. *TIE Fighter* sated *Star Wars* fans, and *Beneath A Steel Sky* provided a memorable cyberpunk adventure.

The year ended with exciting new console launches in Japan. The Sega Saturn took an early lead with a conversion of *Virtua Fighter*, while the excellent conversion of *Ridge Racer* on Sony's PlayStation also got players revved up. Other formats fared less well – SNK's Neo Geo CD didn't offer fashionable 3D games, but its affordable and accurate versions of arcade hits made it moderately popular. NEC's PC-FX was an underpowered bust, and Sega's ill-conceived Mega Drive 32X add-on just confused players.

KEITH HAMILTON ON DESIGNING VIOLENT GAMES

"Violence was not an objective in itself in development – we focused entirely on making the game fun. In an open virtual world, though, virtual violence naturally emerged as something that players enjoyed. Violence doesn't go unpunished in *Grand Theft Auto* – it raises your Wanted level, attracting the police, making it harder to complete missions. The whole thing was intentionally tongue-in-cheek, inspired by films and TV shows of the time from *The Dukes Of Hazzard* and *The Italian Job* to *Die Hard With A Vengeance* and *Scarface* – but delivered in a cartoonish, exaggerated way that was inspired by Eighties videogames."

» [PlayStation] *Destruction Derby* was a chaotic demonstration of what Sony's new hardware offered.

» [SNES] *Yoshi's Island* reminded the open-minded that 3D certainly wasn't everything.

1995

As the NES was retired in the West, the PlayStation and Saturn made their way to international audiences this year, and brought with them plenty of fantastic new 3D games. Sony's machine gave us *Jumping Flash!*, *Destruction Derby*, *Battle Arena Toshinden* and *Twisted Metal*, while Sega gave us *Bug!*, *Clockwork Knight 2* and some amazing arcade conversions. Though less fashionable, great-looking 2D games like *Rapid Reload* and *Astal* also appeared on the PlayStation and Saturn respectively.

The arcades provided a steady supply of 3D games too, many of which would make their way to the new consoles – *Fighting Vipers*, *Sega Rally Championship* and *Virtua Cop 2* to name a few. Plenty more didn't though, or at least not for many years, such as *Gunblade NY*, *Rave Racer* and *Virtua Striker*. A lack of polygons didn't necessarily mean players would stay away though, as games like *Mortal Kombat 3*, *Puzzle Bobble 2* and *Street Fighter Alpha* proved.

PC gamers were enjoying the 3D revolution too, thanks to the likes of *Flight Unlimited* and *MechWarrior 2*. Strategy fans could enjoy the real-time *Warcraft II: Tides Of Darkness* or the turn-based *Heroes Of Might And Magic*, while *Hexen: Beyond Heretic* and the omni-directional *Descent* further developed first-person shooters. *Full Throttle*, *The Dig* and *I Have No Mouth, And I Must Scream* captivated fans of adventure games, while the highly graphic, FMV-heavy horror adventure *Phantasmagoria* may have made them lose their lunch.

The older machines struggled to attract attention in that climate, but still had plenty to offer. *Alien Soldier*, *Ristar* and *Toy Story* are among the most impressive Mega Drive games ever, and the same goes for *Yoshi's Island*, *Donkey Kong Country 2: Diddy's Kong Quest* and the Japanese release *Terranigma* on the SNES. *Alien Breed 3D* and *Pinball Illusions* kept AGA Amiga owners busy, while Atari's Lynx signed off with *Battlezone 2000* and *Super Asteroids & Missile Command*.

MARTIN EDMONDSON ON THE IMPORTANCE OF SONY'S PLAYSTATION

"For me, seeing the PlayStation for the first time, even in its pre-development guise, the size of a huge photocopier, it was clearly going to be transformational. It was like a huge creative roadblock had been lifted and we could imagine all sorts of new ideas and immersive game possibilities. 3D was something that was previously possible to a very limited extent, of course, but this was fast, fluid, visually realistic and aimed at the masses. And crucially, it was easy to program, within a day we had a textured object spinning on the screen. Everything previous had felt evolutionary, but this was revolutionary. Exciting times I'll never forget."

DEFINING GAMES!

STAR WARS: DARK FORCES

LUCASARTS

■ So much more than just another '*Doom* clone', *Dark Forces* married state-of-the art tech with a rich narrative to build the genre's first truly immersive world.

PANZER DRAGOON

TEAM ANDROMEDA

■ It may have been on-rails but the dystopian setting and breathtaking score for Team Andromeda's shooter gave it an otherworldly atmosphere few games could match.

CHRONO TRIGGER

SQUARE

■ A rich story, memorable characters, gorgeous music and neat time-travel mechanics highlighted that 16-bit systems could still offer deep, immersive experiences.

COMMAND & CONQUER

WESTWOOD STUDIOS

■ Westwood's *Dune II* may have innovated, but it was the studio's follow-up that arguably refined those innovations and paved the way for the genre to flourish.

TEKKEN 2

NAMCO

■ In addition to adding new characters and improved visuals, Namco's sequel placed the foundations for the mechanics that would define the series for years to come.

RAYMAN

UBI PICTURES

■ Michel Ancel's quirky and colourful platformer spawned a successful series and proved that 2D games could still compete in a world obsessed with 3D graphics.

TIME CRISIS

NAMCO

■ A smart cover system and cutting-edge visuals saw *Time Crisis* dominate arcades in the mid-Nineties. It would repeat the same trick later on Sony's PlayStation.

WORMS

TEAM17

■ Andy Davidson's idea to combine cute annelids with over-the-top weaponry refreshed the artillery subgenre and paved the way for an epic number of sequels.

WIPEOUT

PSYGNOSIS

■ *WipEout*'s hypnotic soundtrack, stylistic, futuristic setting and challenging track design set a standard that countless developers tried to emulate.

DEFINING GAMES!

SUPER MARIO 64

NINTENDO EAD

■ Need proof of *Super Mario 64*'s importance? Look at the many platformers that followed and failed to emulate its success. Mario made the jump to 3D look easy.

TOMB RAIDER

CORE DESIGN

■ This classic Core release didn't just have cavernous levels, an immense sense of scale and stunning aesthetics, it also featured a heroine that would transcend her own game.

RESIDENT EVIL

CAPCOM

■ Shinji Mikami's survival horror epic highlighted the continuing maturity of console games, and sowed the seeds for a string of terrifically terrifying sequels.

POKÉMON RED & GREEN

GAME FREAK

■ A desire to explore and capture weird little critters and let them loose in one-on-one battles created a cultural phenomenon and a string of copycat clones.

PARAPPA THE RAPPER

NANA-ON SHA

■ The combo of developer Masaya Matsuura and artist Rodney Greenblat led to a fusion of art and sound that laid the foundations for the rhythm action genre.

QUAKE

ID SOFTWARE

■ Extensive multiplayer options and sensational graphics saw id Software redefine the first-person shooter and set new standards that evolved the genre.

NIGHTS: INTO DREAMS

SONIC TEAM

■ It may be a simple score-attack game at its heart, but Sonic Team's gorgeous Saturn release remains a brilliant jewel of creativity that's never been bested.

WAVE RACE 64

NINTENDO EAD

■ We'll obviously mention *Wave Race 64*'s stunning water physics, but its meticulous controls, challenging AI and great track design also made it a standard bearer.

METAL SLUG

NAZCA CORPORATION

■ As developers continued to push polygons in arcades, Nazca hit back with an outrageous pixel-art shooter that was as gorgeous to look at as it was tough to play.

» [Nintendo 64] The 3D worlds in games like *Pilotwings 64* felt like a huge step forward.

» [Arcade] *Scud Race* looked like absolutely nothing else back in the mid-Nineties

1996

The long-awaited Nintendo 64 arrived in Japan and North America, and brought with it some expertly crafted 3D games – not just the widely celebrated *Super Mario 64*, but games like *Pilotwings 64* and *Mario Kart 64*. Despite that, Nintendo hadn't abandoned the SNES, sending it off with a strong line-up of games including *Super Mario RPG*, *Kirby's Fun Pak*, *Donkey Kong Country 3* and an astonishing conversion of *Street Fighter Alpha 2*.

Sega's commitment to the Mega Drive wasn't as strong, with *Sonic 3D: Flickies' Island* being the most notable release of the year. Sega also retired the Master System in Europe. However, the Saturn received some great games including *Guardian Heroes*, *Panzer Dragoon II Zwei* and *Dragon Force*. The PlayStation pulled ahead of the competition thanks to the likes of the superb platformer *Crash Bandicoot*, *Formula 1*, *WipEout 2097* and *Twisted Metal: World Tour*, supported by cult favourites like the RPG *Revelations: Persona*. Meanwhile, The 3DO Company transitioned out of hardware and Atari transitioned out of gaming altogether, discontinuing the Jaguar and merging its operations with a hard-disk manufacturer.

Over on the PC, first-person shooters were decidedly in vogue. *Duke Nukem 3D* incorporated plenty of humour, id Software supplemented *Quake* with *Final Doom* and *Terra Nova: Strike Force Centauri* was critically successful but commercially unprofitable. Virgin's *Command & Conquer: Red Alert*, *Heroes Of Might & Magic II* and *Master Of Orion II* made for a trio of excellent strategy sequels, and BioWare debuted with *Shattered Steel*, a mech simulator.

In the arcades, *Virtua Fighter 3* and *Scud Race* on Sega's Model 3 board pushed the boundaries of graphics technology, but at an exceptionally high cost. *Dead Or Alive* and *X-Men Vs Street Fighter* were favoured by the fighting fraternity, *GTI Club*'s multi-route racing was top notch and *Neo Turf Masters* was a surprisingly thrilling golf game. The most striking cabinet of the year, though? That was Namco's pedal-powered *Prop Cycle*, a flying-bike score-attack game.

GAVIN RUMMERY ON THE RISE OF 3D

"Although there were some pioneering 3D games on PC, it wasn't until the arrival of the first 3D consoles in the mid-Nineties that 3D gaming really took off. This is because they had the dedicated 3D hardware, whilst around this time the first wave of GPUs for PCs started to appear. The switch from 2D to 3D games represented a huge leap in what could be done with entirely new genres like FPSes and adventures like *Tomb Raider* becoming possible. But with this came new challenges around 3D collision detection, 3D cameras, and 3D avatar controls in general. It was an innovative time that produced many of the franchises that live on today."

» [Arcade] The relentless zombies in *The House Of The Dead* can be literally shot to pieces.

» [PlayStation] By the time of *Tomb Raider II*, Lara Croft was already becoming a megastar.

1997

The PlayStation went from strength to strength in 1997, with original games like *Oddworld: Abe's Oddysee* and space combat sim *Colony Wars* mingling with blockbuster sequels like *Formula 1 97, Crash Bandicoot 2: Cortex Strikes Back* and *Tomb Raider II*. These major releases were bolstered by cult favourites like the platformer *Klonoa: Door To Phantomile*, *Mega Man Legends*, *Einhander*, *Kurushi* and *Breath Of Fire III*, as well as budget re-releases of older favourites via the newly introduced Platinum range.

Not to be outdone, the Nintendo 64 was home to hot sequels like *Star Fox 64* and *Yoshi's Story*, as well as memorable original games like the first-person shooter *Turok: Dinosaur Hunter*, the adventure kart racer *Diddy Kong Racing* and the demolition action game *Blast Corps*. Though the Saturn received fine games like *Last Bronx*, *Sonic R*, the snowboarding game *Steep Slope Sliders* and the Japanese RPG *Grandia*, Sega's fortunes continued to slide.

In the arcades, *Time Crisis II* added the fun of two-player action, while rival lightgun games *The Lost World* and *The House Of The Dead* opted for deadly dinosaurs and gallons of gore respectively. A new trend of more unusual large-scale ride-on games also emerged, with games like *Final Furlong*, *Rapid River*, and *Top Skater* allowing players to try horse racing, white-water rafting and skateboarding. *Tekken 3* and *Mortal Kombat 4* also entered arcades this year.

Over on the PC, more major sequels arrived, including *Quake II*, *X-Wing Vs TIE Fighter*, *The Curse Of Monkey Island* and *Riven*, the follow-up to *Myst*. *Postal* courted controversy with its theme of wanton murder, which gave it plenty in common with *Carmageddon* – a game that was ultimately censored with zombies replacing human victims. *Interstate 76*, another combat racer, was rather less controversial. *Age Of Empires* made its mark on the strategy scene and the third-person shooter *MDK* showed that Shiny Entertainment could do more than just platform games.

CHRIS SCHILLING ON GAME COMPLEXITY

"Complex games did exist in the 16-bit era, though they tended to be the preserve of computers rather than consoles. It was the fifth generation of consoles, heralding the arrival of the 3D era, that was the major factor in encouraging developers to offer deeper and more complicated games. Controllers with sticks and buttons meant a greater range of player inputs, also allowing designers to dream a little bigger. And, ushered in by the PlayStation's more adult-focussed marketing, the medium was beginning to reach a broader audience, with older players in particular ready for more sophisticated gaming experiences."

DEFINING GAMES!

FINAL FANTASY VII

SQUARE

■ Spanning three CD-ROMs, Square's gargantuan JRPG arguably did more to introduce the West to the delights of the popular genre than any other game before it.

DIABLO

BLIZZARD NORTH

■ While its sequel would improve on it in a number of ways, the original *Diablo* still made huge progressive leaps for the action RPG genre at the time of its release.

GOLDENEYE 007

RARE

■ Rare's progressive and inventive FPS not only proved that consoles could capably match their PC counterparts, but could also teach them a thing or two as well.

CASTLEVANIA: SYMPHONY OF THE NIGHT

KONAMI COMPUTER ENTERTAINMENT TOKYO

■ It may have floundered commercially, but Konami's genre-pushing 2D adventure has certainly had the last laugh and remains the highlight of the acclaimed series.

DUNGEON KEEPER

BULLFROG PRODUCTIONS

■ Trust Bullfrog to come up with a novel take on a popular genre and sprinkle it with the sort of magic that meant even its sequel struggled to match its appeal.

GRAN TURISMO

POLYPHONY DIGITAL

■ Polyphony's attention to realism delivered a driving simulator that set new standards and demonstrated the added complexity of single-player experiences.

GRAND THEFT AUTO

DMA DESIGN

■ Its story may have followed a linear structure, but *GTA*'s fusion of freedom, violence and exploration created a recipe for mayhem that catapulted it to success.

FALLOUT

INTERPLAY PRODUCTIONS

■ Like *Wasteland* before it, *Fallout* forged its own path, ditching conventional RPG mechanics for a smart Action Point system and extensive character development.

DODONPACHI

CAVE

■ While Jun'ya Ota's *Touhou Project* infiltrated Japanese PCs, CAVE lit up arcades with an astonishing sequel that took bullet hell to a spectacular new level.

DEFINING GAMES!

ZELDA: OCARINA OF TIME
NINTENDO EAD

■ It feels small today, but *Ocarina*'s traversable world felt incredibly complex in 1998, while its innovative targeting system made its way into countless games.

HALF-LIFE
VALVE SOFTWARE

■ Valve's debut game revolutionised the first-person shooter, made an icon of its silent hero and proved the genre could deliver deep, immersive storytelling.

METAL GEAR SOLID
KONAMI COMPUTER ENTERTAINMENT JAPAN

■ Filled with masterful flourishes, clever ideas and movie-like direction, Hideo Kojima's 3D entry in the *Metal Gear* series redefined stealth gaming on consoles.

RESIDENT EVIL 2
CAPCOM

■ Capcom turned everything up to 11 for its ambitious sequel, delivering an expansive, challenging game that helped rewrite the survival horror rulebook.

BANJO-KAZOOIE
RARE

■ The inventive pairing of Banjo and Kazooie to create distinct special moves proved that Nintendo weren't the only studio to master 3D platforming.

THIEF: THE DARK PROJECT
LOOKING GLASS STUDIOS

■ *Thief*'s focus on emergent gameplay, clever AI and inventive use of light and sound as game mechanics meant it pushed the stealth genre in its own unique ways.

DANCE DANCE REVOLUTION
BEMANI

■ *Dance Dance Revolution* revolutionised the concept of marrying popular music to exotic arcade cabs by turning the player themselves into a living controller.

BALDUR'S GATE
BIOWARE

■ As well as revitalising the Western computer RPG, *Baldur's Gate* proved once and for all that *D&D*'s complex rules system could easily find a home on PCs.

STARCRAFT
BLIZZARD ENTERTAINMENT

■ *StarCraft*'s skill in combining in-depth narrative with complex and completely unique factions and creative Technology Trees set new standards for the RTS genre.

» [PlayStation] The wizard's in his underwear, but *Crash Bandicoot 3* is anything but pants.

» [Dreamcast] *Sonic Adventure* was a spectacular demonstration of what Sega's new console could do.

1998

It's said that 1998 is one of gaming's best years ever, and it was definitely packed with fantastic releases – just look at PlayStation games like *Crash Bandicoot 3: Warped*, *Parasite Eve*, *Spyro The Dragon*, *Colin McRae Rally*, *Tomb Raider III* and *R4: Ridge Racer Type 4*. Any of them could easily sit in the column to the left in some years, and that's saying nothing of impressive arcade conversions like *Tekken 3* and *Beatmania*.

Nintendo 64 fans got to enjoy games like *1080° Snowboarding*, *Turok 2: Seeds Of Evil*, *F-Zero X*, *Mario Party* and *International Superstar Soccer '98*. On the PC, the classic adventure *Grim Fandango*, the tank combat revival *Battlezone* and first-person shooter *Unreal* all impressed. The Saturn was even able to go out on a high with games like *Burning Rangers*, *Panzer Dragoon Saga*, and the Japanese hits *Sakura Wars 2* and *Radiant Silvergun*.

Turn your attention to the arcade scene, and awesome racing games like *Daytona USA 2*, *Sega Rally 2* and *Thrill Drive* were just as spectacular as other special attraction cabinets like *Star Wars Trilogy Arcade* and *The House Of The Dead 2*. There are delightful oddities like *Tech Romancer*, 2D fighting classics like *The King Of Fighters '98*, *The Last Blade 2* and *Marvel Vs Capcom*, and even *Tetris: The Grand Master* for hardcore puzzle fans. No matter what you played, 1998 was just amazing.

The later months of the year saw another hardware shake-up. The Game Boy Color finally brought Nintendo's handhelds out of the greyscale age, with colourised updates *Wario Land II*, *Tetris DX* and *The Legend Of Zelda: Link's Awakening DX* serving as key early games. That arrival stuffed SNK and its new black and white Neo Geo Pocket handheld. Sega launched its new online-capable Dreamcast home console in Japan too, with *Virtua Fighter 3tb* and *Sonic Adventure* doing the most to put machines in homes.

PAUL DAVIES ON WHETHER 1998 REALLY IS THE BEST YEAR EVER

"Every generation gets its 'best ever year for games'. Who here remembers 1981?! *Donkey Kong*, *Scramble*, *Gorf*, *Defender* and *Tempest*. The arcade scene was exploding at that time. A decade later, to play at home, *The Legend of Zelda: A Link To The Past*, *Super Tennis*, *Super Castlevania IV*, *Sonic The Hedgehog*, *Streets Of Rage*… all mind-blowing, undisputed classics. The thrill of the late-Nineties, and 1998 as a shining example of this was owed, in my opinion, to the success of PlayStation. What Sony's console did best, versus what the other platforms did differently or better to stand out. The audience was growing, more diverse, and publishers were learning how to capitalise on all this fast."

» [PlayStation] *Final Fantasy VIII*'s American release was timed to coincide with the Dreamcast's launch.

» [PC] *Quake III Arena* was far more focussed on online multiplayer than its predecessors had been.

1999

Though the PlayStation hit its fifth anniversary in 1999, it showed no signs of slowing down – *Tony Hawk's Pro Skater* revolutionised extreme sports games, *Syphon Filter* expanded on the growing stealth genre and *Ape Escape* helped to establish dual analogue controls as the new standard. Then there's the small matter of *Final Fantasy VIII*, another epic RPG with incredible production values.

The Dreamcast arrived in homes around the world, and brought with it the *NBA 2K* and *NFL 2K* franchises, as well as games like *Power Stone*. 1999's arcade hits, like *Dead Or Alive 2*, *F355 Challenge*, *Garou: Mark Of The Wolves*, *Silent Scope* and *Virtua Tennis* provided glimpses into the console's future. On the N64, *Super Smash Bros*, *Pokémon Snap* and *Donkey Kong 64* all earned plaudits. PC gamers could experience the joys of *RollerCoaster Tycoon*, the RPG delights of *Planescape: Torment* and Sid Meier's 4X strategy game *Alpha Centauri*.

The Japanese launch of *Pokémon Gold* & *Silver* did plenty to shift more Game Boy Color hardware, with *Super Mario Bros Deluxe* and *Mario Golf* providing solid platform and sports options. However, Nintendo's dominance in the handheld arena wasn't unchallenged. SNK's Neo Geo Pocket Color had *SNK vs Capcom: Card Fighters Clash* and fantastic handheld versions of *Metal Slug* and *The King Of Fighters*, while the greyscale Bandai WonderSwan's signature game was *Gunpey*.

As the decade drew to a close, 3D worlds were expanding in scale and complexity, with *Driver* on the PlayStation, *Midtown Madness* on PC and *Crazy Taxi* in the arcades all providing large environments to drive around without any pauses for loading. Online multiplayer games were also becoming more prominent, both on the PC with games like *Quake III Arena* and *Age Of Empires II: The Age Of Kings*, and on consoles with offerings like *Chu Chu Rocket!*. If you wanted an indication of where gaming would go in the new millennium, these were the trends to watch.

MINH LE ON THE EXPLOSION OF ONLINE MULTIPLAYER GAMES

"My first multiplayer PVP experience was with the original *Doom*. I remember how incredibly novel it was to be able to play against another human player. It offered an experience unlike any single-player game could offer because of how unpredictable it felt. From that point on, the game industry shifted and we saw an onslaught of multiplayer titles flood the market. Some of my favourites were all of the *Doom*/*Quake* games, as well as the entire library of 3D Realms games such as *Blood*, *Duke Nukem* etc. Online games really shifted the industry and kickstarted the careers of many aspiring game developers like myself."

DEFINING GAMES!

SYSTEM SHOCK 2

IRRATIONAL GAMES/LOOKING GLASS STUDIOS

■ A hybridisation of genres, atmospheric setting and clever ways of telling its narrative led to critical acclaim and influencing the likes of *BioShock* and *Prey*.

PLANESCAPE: TORMENT

BLACK ISLE STUDIOS

■ *Planescape*'s terrific writing, complex characters and masterful storytelling set a new standard of excellence for *D&D* adaptations and Western RPGs in general.

MEDAL OF HONOR

DREAMWORKS INTERACTION

■ Conceived by Steven Spielberg, this hit FPS offered unrivalled realism and authenticity within the genre and led to the direct creation of Activision's *Call Of Duty*.

SOULCALIBUR

NAMCO

■ In addition to having sensational graphics that massively outshone its arcade parent, Namco's Dreamcast brawler also delivered a stunning array of new game modes as well.

SHENMUE

SEGA AM2

■ While Yu Suzuki's opus could never match the ambition of its creator, it still delivered an unparalleled sense of realism that no game of the time could match.

UNREAL TOURNAMENT

EPIC GAMES

■ Epic's sequel easily highlighted the versatility of its Unreal engine and cemented the team's proficiency at crafting intense multiplayer-focused experiences.

TONY HAWK'S PRO SKATER

NEVERSOFT

■ Though eclipsed by its sequels, the robust physics, standout soundtrack and varied challenges of Neversoft's skater led to extreme sports games being everywhere.

COUNTER-STRIKE

VALVE

■ After starting life as a multiplayer mod for *Half-Life*, *Counter-Strike* received an official retail release in 2000 that led to huge global sales and the first esports league.

EVERQUEST

VERANT INTERACTIVE

■ As well as expanding what an MMORPG could be, *Everquest* was infamous for issues like addiction and sales of in-game items, which are still problematic today.

THIS GAME
HAS WORKED
140 DAYS
WITHOUT AN
ACCIDENT
EXIT

Ultimate Guide Lemmings

At the beginning of 1991, along came a troupe of unlikely superstars that burrowed their way into the minds of gamers and non-gamers alike

Words by Nick Thorpe

If you ever imitated another child's bad behaviour when you were young, you were almost certainly asked: "If your friend jumped off a cliff, would you do that too?" Of course, if you were like us you'd claim that you would in order to remain logically consistent, an act of dishonesty which only further frustrated the adult and saw us frogmarched to the nearest cliff. But if you were a lemming, that statement wouldn't be a lie – those guys just love chucking themselves off objects. They also love wandering into jets of flame, drowning, and generally doing very un-clever things. Not real lemmings, mind – their suicidal urges are something of a misconception – but the critters found in DMA Designs' *Lemmings*.

The 'save-'em-up' premise behind the game plays into the popular misconception that lemmings are suicidal creatures. A large group of tiny lemmings will be released into the stage at varying intervals, and continue to walk aimlessly forward until they either hit an object and turn around, or are given a job by the player.

Of course, most of the time this aimless wandering won't just get them nowhere near their goal, but will quite often lead them into all manner of horrible situations, be it plummeting off a cliff, walking into jets of flame, drowning or simply becoming trapped in a situation they can't escape. This is where the job roles come in – these enable the lemmings to forge a path towards the goal by smashing up ▶

CLIMBER

FLOATER

BOMBER

BLOCKER

BUILDER

BASHER

MINER

DIGGER

Q&A MIKE DAILLY

R&D and level design, Amiga version

The walking animation for *Lemmings* was the product of a self-imposed restriction of 8x8 pixels. Do you think this particular approach is useful in aiding creativity?
Actually, it wasn't a self-imposed limitation; it was purely technical. In the old days, you always wanted to draw things using the power of two sizes (8, 16, 32, 64 and so on), so the next size down from 16x16 was 8x8. So it was to fit within 'standard' limitations that started all this – as was normal then. As it happened, only the width mattered on the Amiga, so the resulting size of 8x10 was fine as well.

What was the most difficult aspect of creating *Lemmings*?
There were a few issues. Making the lemmings walk and move exactly, binding feet to ground rather than sliding, actually getting collision working on a pixel basis was tricky – and in fact, *Lemmings* never worked totally for 'steel' things. On console it was a nightmare of the highest order. The five-screen bitmap was utterly horrible, and I am still amazed they managed to port it to the Game Boy!

***Lemmings* is known for its difficulty. Did any of the levels keep you puzzled for ages?**
Nope. By the time we were churning out levels, we were all so good very at it, we could solve any level in seconds – pretty much. The only tricky bit was actually doing the level, but even then most would be solved in only a few attempts.

Which of your levels is your favourite and why?
It's Hero Time is my all-time favourite, because it had a little bit of lateral thinking, and was far from obvious as to how you do it. Lots of people – including testers at Psygnosis – got utterly stumped on it, which makes me happy.

With the benefit of hindsight, is there anything about *Lemmings* that you would have done differently at all?
Tech-wise, *Lemmings 2* solved everything as far as console went, but game-wise… it would have been nice with a background.

Have you ever had any memorable interactions with *Lemmings* fans?
We would occasionally get sent odd *Lemmings* items. Pillows, drawings – even wood carvings! I do meet some at shows, and that's always fun. What gets me most, though, is the love of the game, even after all this time. Seeing weird *Lemmings* 'things' happening – like the group that walked around a computer show one after the other dressed as lemmings – being Blockers and the like. That makes me smile!

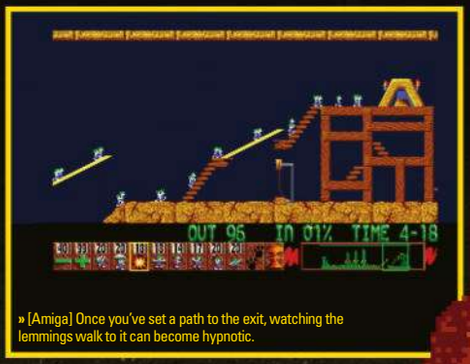
▶ the scenery, climbing it, influencing the direction of other lemmings and surviving otherwise deadly situations. Each level has a set quota of idiotic lemmings that must be saved, as well as a stress-inducing time limit within which it must be done.

Despite the fact that *Lemmings* is a somewhat complex game, it provides an excellent example of a design principle that has fallen out of fashion over the years – education by level design. The early stages in the 'Fun' difficulty mode offer very simple puzzles that perfectly demonstrate the function of each job role as well as various objects within the game. While a short sentence might be given as a hint, the game doesn't hold the player's hand by any means. Even novice players can experience some degree of success, providing a crucial feel-good factor that hooks players on the game early. This also means that by the time players hit the stages where the challenge really begins to ramp up, they're well beyond the point of questioning how they should be playing, and only have to worry about finding a solution. While the difficulty curve isn't perfectly smooth, *Lemmings* does a great job of matching difficulty to player experience.

The genius of *Lemmings* is that while stage design provides some of the challenge, the rest is delivered by simply restricting the resources you're given to complete a challenge. A great example of this is found in the difference between an early level titled, Builders Will Help You Here, and the game's first truly challenging stage, Postcard From Lemmingland. The former stage gives you nothing but builders, and the solution to the stage is extremely obvious even to novice players. It's even possible to save every lemming, simply by having them build a stairway out of the pit that a few will inevitably tumble into. Postcard From Lemmingland provides exactly the same terrain, but drastically alters your options, ▶

» [Amiga] Early stages introduce players to the various jobs while providing little peril, which introduces a gentle difficulty curve.

» [Amiga] In a famous bit of overreaction, the 666 level was excised from certain conversions.



» [Amiga] Once you've set a path to the exit, watching the lemmings walk to it can become hypnotic.

CONVERSIONS

BEST — Covering every version would take the whole magazine, so we've picked the biggest hits and misses — **WORST**

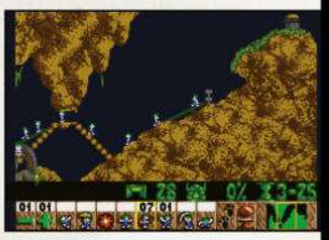
COMMODORE 64

■ Despite utilising a finicky multiload system, *Lemmings* on the Commodore computer impressed many by flinging around up to 50 lemmings, as well as including a massive 100 stages. With the ZX Spectrum and Amstrad versions paling in comparison, the C64 wins the crown of having the best conversion of *Lemmings* on an 8-bit computer.

PLAYSTATION 2

■ Based on Team17's PSP version of the game, *Lemmings* for the PS2 is an updated version of the original game, with all 120 original stages plus 36 brand-new ones. The star attraction is the EyeToy mode, which provides users with some surprisingly smart motion-controlled stages to play.

MEGA DRIVE



■ The Mega Drive version isn't the most accurate conversion, in part because of limitations on the width of levels, and it is missing some of the original Amiga stages. However, Sunsoft managed to make it up to Mega Drive owners with a number of exclusive stages, bringing the grand total up to a staggering 180.

ATARI LYNX

■ While some of the stage designs have had to be squashed vertically in order to fit the lower resolution, the Lynx conversion of *Lemmings* is one of the best, which should be expected as it was handled in-house at DMA Design. Of particular note is the ability to fast forward play – an appreciated inclusion.

MASTER SYSTEM

■ A stunning job was done with this 8-bit conversion. Pixel destruction made it into the game intact, despite the constraints of the hardware. The game also contains 120 levels, though some have had to be simplified, as well as some new music alongside the original tunes we enjoyed so much.

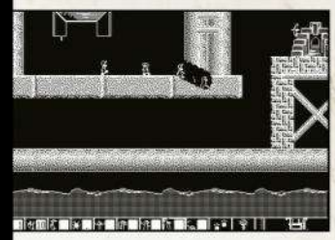
GAME BOY COLOR

■ This should be an improvement over the surprisingly decent monochrome version, as it boasts the *Oh No! More Lemmings* levels and colour graphics. Unfortunately, it has major issues – poor scrolling being the primary complaint. However, the most unforgivable sin is the omission of the excellent original music.

NES

■ The NES struggles to provide a good game of *Lemmings*. 20 levels are missing and only a paltry 14 lemmings can be active at any one time. However, the real issue is the control scheme, which requires you to confusingly hold the B button to select skills rather than just selecting from the menu.

MAC



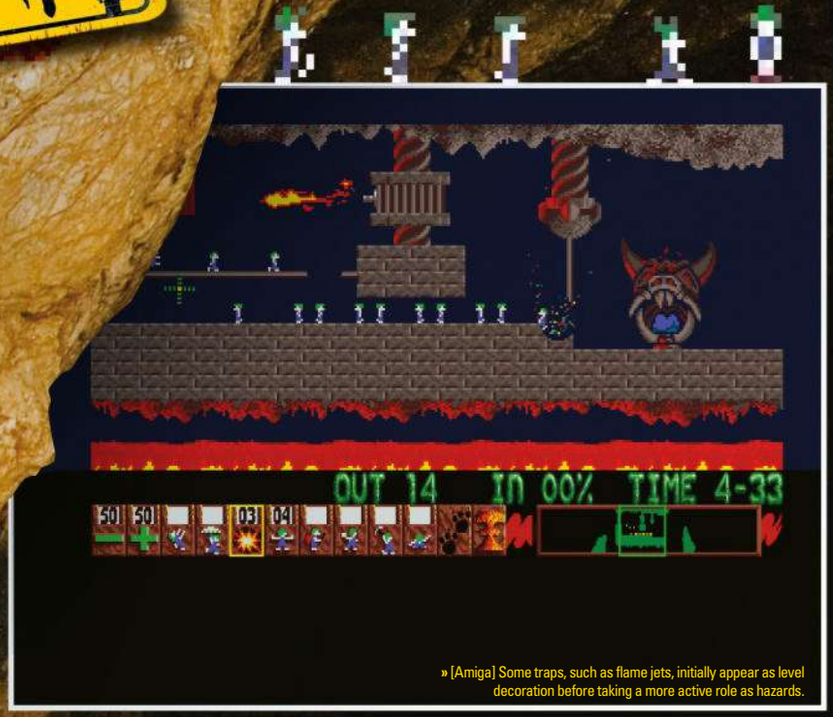
■ In many respects, playing *Lemmings* on a Mac is a surprisingly good experience. The higher resolution graphics are particularly good. Unfortunately, some stages – notably Pea Soup, become almost impossible due to your inability to distinguish between objects and the dangers.

AMIGA CD32

■ It's the Amiga version of *Lemmings* – but on CD! This sounds fantastic, but what does it mean in practice? Not a lot. Two-player mode is gone, and there are no enhancements for the new format. Now consider that this version arrived in 1994, well after the sequel, but still came out at full price...

PLAYSTATION

■ You'd expect that a machine as powerful as the PlayStation should be able to do a perfect version of *Lemmings*, right? Unfortunately, the PlayStation version of *Lemmings* and *Oh No! More Lemmings* is actually missing stages and doesn't use the original graphics. A missed opportunity.



» [Amiga] Some traps, such as flame jets, initially appear as level decoration before taking a more active role as hazards.

providing only a single builder and a variety of other skills to get the job done. Suddenly, the stage becomes a lot more difficult and requires some very creative uses of skills to make it through – for example, you'll need to figure out how to turn a lemming around without any blockers.

If that sounds frustrating, you're not wrong – *Lemmings* is a game which is inherently frustrating, and as repeated attempts to clear tricky levels bear no fruit, you may find yourself pulling your hair out. However, the game has a number of excellent features which bring down your stress levels. The first is the fact that the lemmings themselves are so cute. Being comprised of only a few pixels each, you wouldn't expect them to have a great deal of personality, but the animation really draws you into their plight as you watch a lone lemming bravely climb a tall object or mine a path for the others. The simple act of watching so many of them at once can in fact be rather mesmerising, as they travel the undulating terrain.

Then, of course, there's the music. Originally composed by Brian Johnston, a number of replacement tracks were added by Tim Wright at the request of Psygnosis, which had become worried about music copyright. The result is that the game uses many popular public domain songs, including classical compositions and staples such as *London Bridge Is Falling Down*.

» [Amiga] In most versions, you can quit without nuking – but that doesn't carry the same satisfaction.

» [Amiga] Complex designs posed problems for coders when converting *Lemmings* to other systems.

Q&A RUSSELL KAY

Programming, PC version

How did you end up working on the PC port of *Lemmings*?
Well, Dave Jones and I were working on Spectrum games together before he started DMA Design and bought his Amiga, so I graduated from the Spectrum to the PC (the processors are similar) and did PC ports for DMA, so it became my machine. When *Lemmings* came around, I did the original demo on the PC but I had my finals at university to do before I could give the game my full attention, so Dave started the game and I returned (having finished my finals) and got going on the PC port.

What technical challenges did you face?
Well there were a few. A lack of PC hardware support: the Amiga had a blitter, I had a poor CPU. The lack of colours: initially we were doing EGA only, though we eventually did a VGA version. There was a shortage of memory; you could only reliably get around 512KB of main RAM on a PC back then. There was also many PC types out there, with varying RAM, graphics capabilities and disk sizes. We were essentially doing four different versions (EGA/VGA, CGA and Tandy), and having to cope with a lack of two mice, for the much-lamented lack of two-player mode. I'm still sore about that one…

We shared a lot of code back and forth with me doing some of the skill types (Walker, Climber that sort of thing) and the basic structure of the code is the same, I had to do a lot more with the various components that the PC had, with an attempt at interrupts to get a reliable raster split – I really wish I had not done that…

How do you feel it compares to the Amiga version?
I am very pleased with it. It holds up really well over time and it worked very well for PCs of that era.

What's the best version of *Lemmings* and why?
I think they both hold their own – over time I see that the PC version is the best-known one, mainly because it had the largest audience. It is only in Europe that the Amiga one is well-known, though there are still a lot of PC users over here.

Why do you think the game remains so popular with gamers?
Simplicity – the gameplay is easy to get, it is simple to pick up and the game itself has a good learning curve (we worked hard at that), so it is easy to get into…

Finally, we'd like to hear an anecdote of your time working on *Lemmings*.
At the time, when we were looking for a publisher, everyone we showed it to loved it, but thought it was too much of a risk to publish it. Even Psygnosis did initially. It was only later that Dave managed to persuade Ian Hetherington that it was worth the risk!

Not only was the result catchy, but weirdly effective in reducing stress – after all, it's hard to stay mad at a game which is playing *How Much Is That Doggy In The Window*. The sound effects also added to the cuteness of the lemmings, as they had high-pitched voices which would play at the beginning of each stage ("let's go!") and when you needed to make them explode ("oh no!").

Sorry, did we say 'needed' to make them explode? That might have been a tad disingenuous, because while it's certainly true that you'll need to use the occasional bomber to blast through some of the game's 120 levels, most of the time, exploding lemmings were simply the result of player frustration. When a stage is lost, or you have a few blockers that need disposing of, or even when you just feel like it, the nuke button is your best friend. A double-click on it will activate a five second countdown for every lemming on the screen and result in a screen full of violently shaking critters, followed by a round of explosions that would please even Michael Bay. While this has become the default option for quitting a stage, the truth is that most versions of *Lemmings* actually have a non-nuclear option to quit the stage – they're just almost never used because nuking is far more fun.

Speaking of rarely-used options, one of the best features of the Amiga original was the two-player mode of *Lemmings*. This took place across 20 specially designed stages and saw players competing to rescue the most lemmings. While you could only assign jobs to your own lemmings, the competitiveness of the two-player mode arose from the fact that you could direct your opponent's lemmings into your own base, effectively stealing them. It's a fantastic design but it was often difficult to replicate on other systems, and is usually the first aspect of *Lemmings* to be scrapped during porting.

» [Amiga] Often, your main problems is keeping the other lemmings safe while letting the useful ones do their jobs.

Q&A TIM WRIGHT

Music, Amiga version

How did you originally go about composing the music for *Lemmings*?
Firstly, I had the basic premise of adapting well-known hummable folk tunes, to replace existing tracks that were problematic in terms of copyright, like the theme from *Batman* for instance.

Secondly, I was a dab hand at Karsten Obarski's Soundtracker and the follow-up called NoiseTracker, but I was told to write the music in a supplied tracker program – Linel's Sound FX, if I recall correctly.

Thirdly, there were tight restrictions in terms of memory, permitted musical effects within the editor (i.e. none) and only three channels so that there was always one channel free for sound effects.

Brian Johnston had composed all of the music at that point, but they'd removed several of them for legal reasons. Some of his tunes remained, and they're also well-remembered… like *Ten Green Bottles*, *The Can-Can Theme*, *How Much Is That Doggie In The Window?*, and his original tunes too.

The memory constraint meant that there wasn't much room to have samples per track, so there was a bit of instrument sharing. However, this eased up a bit towards the end and I was asked to create cover versions of well-known Psygnosis music to be included within the game – tracks from games like *Menace* and *Shadow Of The Beast* – tricky stuff when you've only got three channels and a lot less memory than the originals.

I kinda chose which classic songs to cover at random… whatever popped into my head really; old folk melodies, Christmas hymns and so on. There were some original compositions in there ,too, just to spice things up a little, along with some mash-ups where I'd blend two tracks, or adapt known themes with my own melodies.

How long did it take and what problems (if any) did you encounter along the way?
I recall it took around a week or so, as there was a pressing deadline. But then I got a few more days to create the Psygnosis game cover versions I mentioned earlier. I didn't really encounter any problems during the composition phase, aside from trying to get the most out of the samples I shoehorned in to the available memory. There are well-known tricks you can use with the likes of NoiseTracker, but none of that was allowed... I could only trigger notes, so it was hard work in that respect.

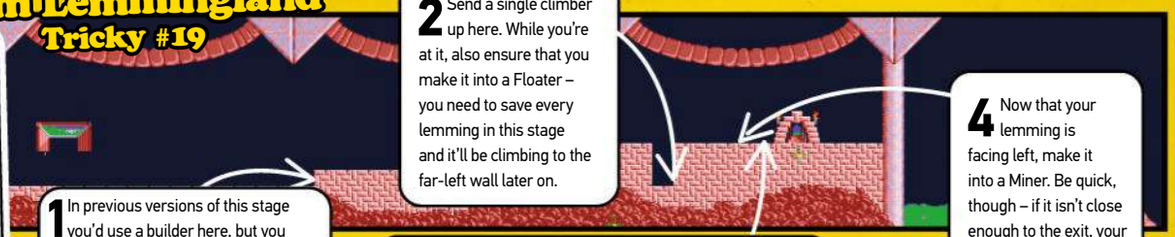
Were you involved with the sound effects of the game and who supplied those voices?
I was brought in towards the end of the project, so the sound effects were all done and dusted at that point. I believe the original *Lemmings* were voiced by Scott Johnston's mother, and then played back at a much faster speed to give them that classic chipmunk sound.

Why were there so many remixes of classic tunes?
I think Psygnosis were quite keen on the idea that the tunes were rip-offs from TV shows, and other well-known folk or public domain tracks. But they didn't want any nightmares in terms of copyright and lawsuits, so I suggested we just stick to well-known music that was out of copyright. So there were some riffs taken from folk tunes, classical music, religious hymns and so on.

TRICKY TERRAIN

These are some of the most infamously difficult levels Lemmings has to offer, alongside some helpful tips

Postcard From Lemmingland
Tricky #19



RESOURCES

x10		x1	
x10		x1	
	0	x1	
	0	x1	

1 In previous versions of this stage you'd use a builder here, but you only have access to one now. Use your Basher instead, to clear a path to the pit for all of your lemmings.

2 Send a single climber up here. While you're at it, also ensure that you make it into a Floater – you need to save every lemming in this stage and it'll be climbing to the far-left wall later on.

3 This is the trick of the stage. Use your Digger straight away before the exit, and then assign it as a builder immediately. It'll reach the side of the small hole it just dug and turn around.

4 Now that your lemming is facing left, make it into a Miner. Be quick, though – if it isn't close enough to the exit, your other lemmings won't be able to reach the tunnel to freedom.

Triple Trouble
Taxing #26

RESOURCES

x10		x12	
x10		x10	
x10		x10	
x10		x10	

1 With your first lemming, dig a hole slightly to the right of where it landed – this will ensure you save the ones at the top without any undue worries.

2 Start a Builder off in this corner, and keep it in action until it reaches the stone circle. To protect your other lemmings, dig a hole beneath where the new lemmings are falling in.

3 Once your Builder has reached the stone circle, have him bash his way through it and create a path to the exit.

4 Use a Builder to repair the hole you dug earlier, completing the path. Now all you have to do is repeat this process on the other side!

Down, Along, Up. In That Order
Mayhem #5

RESOURCES

x2		x5	
x2		x1	
x10			0
x10		x5	

1 Send a climbing Floater over each side of this structure and block off the fire pits at each end of the level. To free the rest of the lemmings, dig at the left and right alternately.

2 You may wish to use a Blocker to keep a small group of lemmings aside here for visibility – ten should do. Have a Builder work its way up to this first ledge.

3 Create a Blocker to stop your lemmings from going over the edge, then start a builder towards hitting the Blocker. It'll turn around mid-build and keep on working!

4 Rinse and repeat, remembering to ensure that your Builder will hit your Blocker and turn around while continuing to build. Free any remaining lemmings by removing Blockers and finally, exhale!

No Added Colours Or Lemmings
Mayhem #20

RESOURCES

x2		x1	
	0	x1	
	0	x2	
x1			0

1 Once your second lemming reaches this spot, assign it as a Blocker. You need to rescue all lemmings here, but don't worry – you will rescue this helpful chap later.

2 Use the first lemming which you singled out from the pack, bash through this wall to create a path towards the exit.

3 Wait until the lemming reaches the edge of the platform to assign it as a Builder – it needs to hit the wall so it'll turn left when it's done.

4 Finally, assign your lone lemming as a Miner to tunnel under the Blocker you assigned earlier, which will free it. Once it's done, make it into a Climber and you're golden!

Q&A DOMINIC WOOD

Programming, Master System and Game Gear

Had you played *Lemmings* before starting work on the conversion? If so, what did you think of the game?
I had played it (PC version, I think) and I enjoyed the game, although I wasn't addicted. My friend's granny used to play it apparently! It's one of the first crossover casual games. When I was developing, I didn't have time or the eyesight to play games in my spare time as I didn't have much. However when we had the contract we used to play it a *lot*.

What were the major challenges Probe faced in converting *Lemmings* to Master System/Game Gear?
Firstly, how to build a destructible/buildable landscape with a character-based screen system with a limited number of characters, that was interesting. Secondly, how to get that mouse feel with a game controller. I spent a lot of time and effort on that, adjusting the acceleration/deceleration and coding immediate response with a change of direction, it was commended in the reviews. My aim was to beat the team working on the Game Boy version.

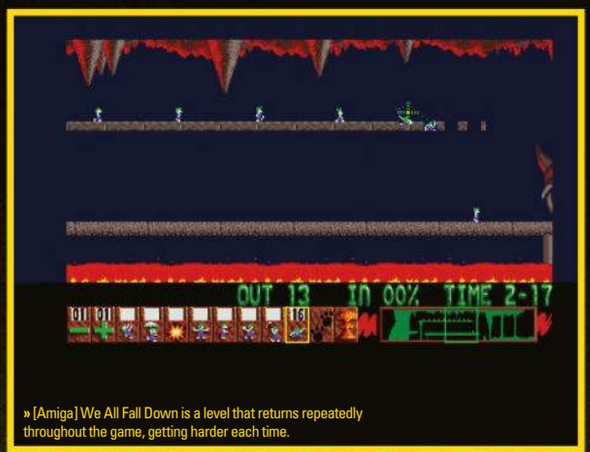
How much contact did Probe have with DMA/Psygnosis during the conversion process?
Not a lot from what I remember, I guess the original was coded by another external team, it would have been good to have hooked up with original dev team. But in those days, conversions were passed out and you certainly wouldn't be involved. Sega Japan sent a funny email on something we missed a day before production; it was completely true but would have meant a complete 100 level re-test so we didn't implement it.

Why do you think the conversion went so well?
Great game! We had a good team Neil Young (EA, ngMoco, N3twork) managing although I don't remember him having to chase us that much, it was also the first game Rob O'Farrell worked on as a tester; he's a big cheese now.

The popularity of *Lemmings* during the early Nineties was enormous. The initial Amiga release was followed by conversions for what seemed like every format available, from the 8-bit computers and consoles to the rather more exotic likes of the CD-i, SAM Coupé and Sharp X68000, and even the new generation of consoles such as the 3DO. Despite the fact that we've singled out some versions of the game for praise and criticism in this feature, it's worth noting that the core experience is so strong that you'll probably have fun with any you care to pick up. The popularity of the game was accompanied by massive critical success, with many reviewers recognising the clever puzzles and addictive qualities of the game.

An expansion pack titled *Oh No! More Lemmings* soon followed, but was much less widely available than the original game, appearing on PC, Atari ST, SAM Coupé, Macintosh and Acorn Archimedes. The levels were also present in the Game Boy Color, PlayStation and Mega Drive versions of the game in varying number. Also of interest to *Lemmings* enthusiasts are the excellent *Xmas Lemmings* demos given away on magazines, which provided brand-new winter-themed stages for players – a rather excellent Christmas present in itself.

"As well as the addictive, multitasking game play, ingenious use of physics and black humour we (the artists) loved how the DMA guys managed to cram so much character and fluid animation into an 8x8 pixel figure, it really brought the game to life. A lost art these days" Jeff Bramfitt



» [Amiga] We All Fall Down is a level that returns repeatedly throughout the game, getting harder each time.

Lemmings is still a unique game – even other save-'em-ups like *Chu Chu Rocket* resemble it only tangentially – and one which ranks alongside the likes of *Tetris* as one of the few games that can claim to have near-universal appeal. At a time when games were marketed almost exclusively to young males, *Lemmings* found popularity with all audiences. The cute characters were appealing in a way that was easy for anyone to understand, and the game gently eased players in, so even if you'd never played a videogame before you could probably get the hang of *Lemmings*. And once you were in, you were hooked – *Lemmings* is a strong game design which could keep players playing long into the night. In fact, we think we can hear an enthusiastic cry of, "Let's go!" right now – though that might just be our addiction kicking back in. Okay then, one more go…

FLASHBACK

BOY WONDER

LAUNCHED IN THE UK IN 1990 AND STILL GOING STRONG IN 1999, THE GAME BOY DEFINED HANDHELD GAMING THROUGHOUT THE DECADE. ABOVE ALL ELSE, THIS WAS DOWN TO ITS KILLER APPS

WORDS BY RORY MILNE

» [Game Boy] The *Super Mario Land* outings on Game Boy were arguably more creative than the plumber's adventures on home consoles.

» [Game Boy] Recognisable faces like the Teenage Mutant Ninja/Hero Turtles did their job in shifting Game Boy consoles.

© Getty; Adobe Stock

Although the Game Boy launched in Japan and the US in 1989, and even though its final revisions were discontinued in 2003, Nintendo's beloved handheld console was quintessentially a Nineties phenomenon. In Europe, it arrived in 1990 boasting a pair of stand-out launch titles, *Super Mario Land* and *Tetris*.

Super Mario Land may have had far fewer levels than the NES *Super Mario Bros* titles and was depicted in monochrome line art visuals, but the handheld platformer otherwise replicated the gameplay and mechanics beloved by fans of the originals – so much so that it sold over 18 million copies. Set in a new environment called Sarasaland, rather than the Mushroom Kingdom, *Super Mario Land* tasked players with rescuing Princess Daisy by traversing platforming and – in a flex of creativity – scrolling shoot-'em-up stages.

Tetris had a more straightforward objective but was no less compelling. The Game Boy version of Alexey Pajitnov's masterpiece was the pack-in title for the system's launch. Its challenge was to arrange a relentless assortment of falling four-block tetrominoes into solid lines at the bottom of the screen, which would disappear on completion. As its levels progressed, the shapes fell faster, and if the screen filled up to the top, it was game over.

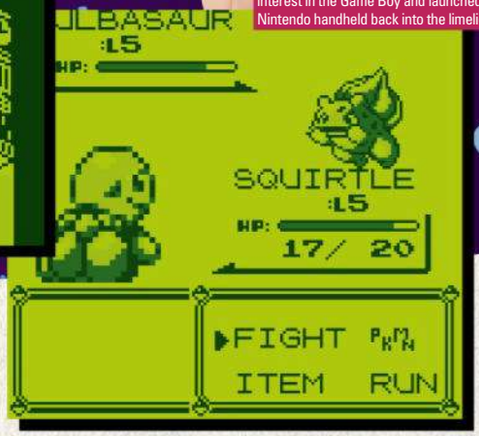
Subsequent releases for Nintendo's handheld console ensured its continuing popularity throughout 1990, including *Dr Mario*, another falling-block title, and Capcom's adaptation of its NES platformer *DuckTales*. By the end of the year, the Game Boy was the best-selling console globally. The following year saw Nintendo publish *Yoshi*, in which you caught falling monsters on trays and spun them so that identical creatures that followed would take them out. Nintendo also released the acclaimed *Metroid* sequel *Return Of Samus* for its diminutive handheld in 1991, while Rare brought out its isometric racer *Super RC Pro-Am*.

In 1992, Nintendo's big Game Boy titles included *Super Mario Land 2: 6 Golden Coins*, which was far larger than its predecessor, and *Kirby's Dream Land*, where the titular hero inhaled foes and used them as projectiles! 1993 marked the *Zelda* series' Game Boy debut with *Link's*

» [Game Boy] Direct ports were impossible, but impressive conversions like *R-Type DX* deftly captured the essence of arcade originals.

» [Game Boy] The monochrome display held graphics back somewhat. However, it also fostered creative solutions.

» [Game Boy] *Pokémon Red & Blue* re-ignited interest in the Game Boy and launched the Nintendo handheld back into the limelight.



Awakening, which began as a port of *A Link To The Past* before becoming an original title. Kirby returned to the Game Boy in 1993 with the self-explanatory *Kirby's Pinball Land*, as did *Tetris* with *Tetris 2*, where you rotated multi-shaded falling shapes to make touching shaded sections of them disappear.

To maintain interest in the console's library, Nintendo released the Super Game Boy in 1994, which enabled Game Boy games to run in colour on a TV screen using a SNES. The year's best-selling Game Boy game was *Wario Land*, featuring Mario's antithetical antagonist in a starring role. Donkey Kong also graced the handheld in a remarkable self-titled puzzle platformer. He then reappeared on the console in 1995 in *Donkey Kong Land* by Rare, inspired by its SNES hit *Donkey Kong Country*. Meanwhile, *Kirby's Dream Land 2* sold almost as well in the same year.

In a bid to revitalise the Game Boy in 1996, Nintendo launched the Game Boy Pocket, a slimmed-down version of the original with a black and white screen instead of a green display. But in the same year, a pair of games with a novel concept were released in Japan, and they did more to reinvigorate the Game Boy than a hardware revision ever could. In *Pocket Monsters Red & Green*, the gauntlet was laid down for players to catch, level up and battle the titular creatures. A secondary objective was gathering all 151 of the game's monsters, either by capturing them with Poké Balls or trading with other players, which required linking your Game Boy to a friend's. By the end of 1997, the two games had sold seven million copies in Japan and were ready for a debut on the world stage. Rare's *Donkey Kong Land 2* sold in its millions, too, in 1996. *Breakout* variant *Kirby's Block Ball* and *Micro Machines 2* were also well-received that same year. A concept that fought for Game Boy owners' attention in 1997 was *Tamagotchi* – which shifted millions of units thanks to it capitalising on the digital toy craze.

In something of a renaissance for the platform, two revisions appeared in 1998: the Game Boy Light, which incorporated a backlight for low-light environments, and the Game Boy Color, which played Game Boy games in four colours and its own games in full colour. A camera and a printer were also released in 1998, allowing you to take selfies and print them out. Then in 1999, *Pokémon Gold & Silver* graced the console in Japan and sold over a million cartridges on day one. As the decade ended, the Game Boy was in rude health, leaving no doubt that it had been the handheld that ruled the Nineties.

GAME BOY GOODNESS

NOTABLE TITLES DESIGNED ESPECIALLY FOR THE HANDHELD

BATTLETOADS

Rare's Game Boy iteration of *Battletoads* is markedly different from the revered firm's NES original. The handheld game cleverly differentiates itself with exciting new challenges while retaining the original's focus on beat-'em-up action, boss fights, platforming and stunning setpieces. These include a shoot-'em-up with UFOs and fleeing from a big brain!

METROID II: RETURN OF SAMUS

Like the NES original, *Metroid II* is an atmospheric action adventure game where Samus can morph into a ball to fit into small spaces. *Metroid II* introduces two new upgrades to let you climb walls and ceilings, and jump while in ball form. The sequel also has two new beam weapons to add to the fun.

WARIO LAND: SUPER MARIO LAND 3

There are almost entirely different mechanics in *Wario Land* compared to its predecessors, and, of course, Wario is the hero. He can stun and lob foes and break blocks with a shoulder charge. He can also use three helmets that double his strength or enable him to fly and breathe fire.

MICRO MACHINES 2: TURBO TOURNAMENT

The Game Boy version of *Micro Machines 2* impresses on several fronts. It looks and plays just like the Mega Drive racer despite having monochrome visuals. It has a link cable option, or two people can share a Game Boy, though this means no brakes, and the cars always go at full speed!

SUPER MARIO BROS DELUXE

As well as being a faithful port of the NES *Super Mario Bros*, this Game Boy Color release has lots of extras. There's a link cable Vs mode where two players race through stages, solo high-score chases through completed levels and even an unlockable version of *Super Mario Bros 2*.

THE STORY OF SONIC THE HEDGEHOG

THE FASTEST HERO IN VIDEOGAMES IS OVER THREE DECADES OLD, AND HE'S SHOWING NO SIGNS OF SLOWING DOWN. WITH PRODUCER TAKASHI IIZUKA, WE LOOK AT SONIC FROM A VARIETY OF ANGLES TO FIND OUT WHY HIS CAREER HAS BEEN A MARATHON RATHER THAN A SPRINT

WORDS BY **NICK THORPE**

Takashi Iizuka – producer, Sonic Team.

If videogame characters could attend their own award shows, which ones do you think would get the full A-list, red carpet treatment? It's a strange question, but if you indulge us and give it a little thought, you'll probably conclude that there aren't too many. Pac-Man would definitely be there: probably to collect a lifetime achievement award, and Mario wouldn't be far behind. Lara Croft would be the favourite of the paparazzi, and Pikachu would be there to give some of the most insightful interviews of all. Sonic The Hedgehog would certainly join all of them, too – and he'd almost certainly be the one making the evening news because of some attention-grabbing antics.

Sonic was designed to steal the show from day one. Sega wanted a character to take its business to the next level and allow the Mega Drive to compete against the might of Mario, and that's exactly what it got. In those early days, Sonic's speed ensured his game was in the spotlight. Sega Of America's bold tactic of running mall tours to compare *Sonic The Hedgehog* and *Super Mario World* relied on Sonic's flashy nature, and it worked. When Sega needed to demonstrate the power of the Dreamcast, Sonic's dramatic escape from a rampaging killer whale did the job admirably.

But like many celebrities, Sonic has had his trials and tribulations over the years. Fans have been determined to stick by him, sometimes to the bafflement of those watching from the sidelines. In part, that's because the dark days of 2006 feel like half a lifetime ago – and as far as Sonic is concerned, they are – but it's also because *Sonic* games are unique. When you're in full flow, guiding Sonic as he leaps over obstacles and spins through enemies at a pace that you never thought possible at the start of the game, the sense of mastery you feel is second to none. It feels almost akin to a videogaming form of parkour, and fans live for those moments. When Sonic is at his best, he delivers exhilarating action like no other character can.

Today, Takashi Iizuka arguably knows Sonic better than anybody else, having been involved with the speedy superstar for the vast majority of the series to date. He started his career as a designer on *Sonic 3* and *Sonic & Knuckles*, moved into a directorial role for the popular *Sonic Adventure* games, and today acts as the producer of the series and head of Sonic Team. We've asked him to explain aspects of how he and his team approach the *Sonic* series, in order to uncover the philosophies and ideas that have shaped such an enduring part of videogaming – and indeed, pop culture in general. ▶

» [Mega Drive] Storytelling in early *Sonic* games was silent, with character animations wholly responsible for conveying personality.

» Early art for Sonic shows him as rather carefree, brushing his hands off here as if to show his heroism is no big deal.

» [Xbox 360] One area that Sonic's character isn't well-versed in is romance – though it has been attempted.

INIMITABLE IMAGE

SONIC'S CHARACTER DESIGN AND PERSONALITY HAVE LONG BEEN PART OF HIS APPEAL – HERE'S HOW SEGA KEEPS HIS IMAGE FRESH

Sonic is a character that is rarely caught standing still, both in a literal and conceptual sense. That's always been the case, too – just check out the original story comic that ran in Japan's *Mega Drive Fan* magazine, which is full of oddball concepts from the game's development period. Sonic comes across very differently there, sporting some wild-looking fangs and acting as the frontman of a rock band, but it makes a lot of sense if you still think of Sonic as the "hedgehog with attitude" that he was always said to be. Really, from the moment that he turned to you with a scowl and started tapping his foot if you left the controller alone, that's what he always was.

But we've had different interpretations of just what Sonic should be over the years. Recent games have seen him throwing out comical quips like a Saturday morning cartoon character, and his movie personality was excitable and childlike. Elsewhere, he has taken a different path – the 2006 *Sonic The Hedgehog* game went for a serious approach, while *Sonic The Comic* portrays Sonic as a hero whose arrogance and condescension sometimes cause him problems.

So with that in mind, how does the veteran Sonic Team head Takashi Iizuka see Sonic's personality today? "Sonic is a playful hedgehog who never shies away from an adventure. He's focused on justice and doing what's right by his pals, no matter where that may lead him," he replies. "His quick wit takes him far but can sometimes get caught up in a speedy whirlwind – that's where his trusted friends come in, bringing him back down to earth and keeping him grounded."

The role of Sonic's friends has changed over the years, with the likes of Tails, Knuckles and Shadow taking just as much gameplay prominence as story importance in the early days of the move into 3D. In recent times, they've been present but only in secondary story roles. In the same way, the kind of stories that Sonic features in has also changed, from tales of destruction and calamity in the likes of *Sonic The Hedgehog* (2006) and *Sonic Forces* to more light-hearted, comedic stories like *Sonic Colours*. You should probably expect to see more such changes in the future, too. "Sonic is an extremely versatile character, in that he can be adapted into many different forms when telling a story, as you mentioned. Experimenting with different approaches has been an exciting process, and we plan on continuing that so long as it remains accessible to our team," Iizuka confirms.

Staying relevant for 30 years has its challenges, and for all of the various interpretations of his personality, Sonic has had just as many distinctive visual styles to keep up with the trends. "Consumers have always taken a liking to Sonic's playful and colourful appearance, and we always try to keep his appearance rather consistent for the sake of ensuring his fans can recognise him no matter what medium he appears in," explains Iizuka. "His vibrant colour and mischievous expressions resonated with kids and adults alike who have now followed Sonic through the years, and slight changes to his physical appearance have kept audiences on their toes as they watch Sonic transition into different forms throughout his life."

Those changes were made obvious even to the less observant in 2011 when *Sonic Generations* brought the modern Sonic and his 1991 counterpart together for an adventure through time. "Initially, we thought bringing the 'classic' Sonic into the fold was just going to be a 20th anniversary project, but it was met with such positive responses from fans that we knew we would keep him around," Iizuka reveals. "In fact, we have released *Sonic Mania* focused on the 'classic' Sonic in 2017. The 'classic' Sonic is a popular iteration who will hopefully be a part of the blue blur's future."

As Sonic has grown into a multi-generational fan favourite, players who grew up in different eras have formed their own attachments – for many *Sonic The Hedgehog 2* is the ultimate touchstone, but for younger fans it can be *Sonic Adventure 2*, *Sonic Generations* or even *Sonic Mania*. With the focus on classic Sonic and spin-off projects such as *Sonic Boom* in recent years, some fans have begun to question whether Sega sees different iterations of Sonic almost as distinctive characters with their own audiences, rather than a single character. "Sonic obviously has a long-lasting appeal for fans, regardless of his form, but he's the same lovable character at the end of the day," says Iizuka, refuting that notion. "The nostalgic factor allows us to translate his unique personality into a number of different mediums, where he stays entirely relatable and recognisable. It's not really up to us to dictate how our audiences interpret Sonic but instead, it's our job to ensure they see him take on new forms that further perpetuate his spunky attitude that fans know and love." ▶

ERINACEIDAE EVOLUTION

HOW SONIC'S LOOK HAS DEVELOPED OVER THE YEARS

CLASSIC SONIC

■ Naoto Oshima's character concept was brilliantly illustrated by Akira Watanabe, and informed the basic expectation of Sonic's appearance in Japan right up until *Sonic Adventure* came along.

SONIC BOOM

■ This rendition isn't so bad in hindsight, especially compared to the top-heavy treatment Knuckles got in *Sonic Boom*. But the scarf is an odd stylistic flourish, and why did he tape up his shoes?

SONIC ADVENTURE SONIC

■ Yuji Uekawa's visual refresh gave Sonic longer legs, longer spikes and a smaller belly, as well as green eyes. Twisted, dynamic poses mark the 2D illustrations in the early part of this era too.

MODERN SONIC

■ While *Sonic Adventure* was mostly represented with 2D artwork, Sega has subtly moved away from the 3D artwork used in that era to give Sonic the familiar look that he has today in his 3D appearances.

MOVIE SONIC

■ Paramount redesigned its movie model, criticised for its weird legs and creepy eyes. The end result, aided by Tyson Hesse, is more furry than spiky but worth the $5 million budget increase.

Courtesy Paramount Pictures and Sega Of America.

WESTERN SONIC

■ Greg Martin's take on Sonic, adopted by other Western artists such as Duncan Gutteridge, is often known by fans as 'Mohawk Sonic' as he often appears to have just a single row of spikes.

GOTTA GO FAST

EVERY SUPERHERO NEEDS THEIR DEFINING SUPERPOWER, AND SONIC'S IS SPEED – BUT HOW DOES SEGA KEEP HIM FROM RUNNING OUT OF CONTROL?

What would Sonic be without his speed? Roadkill, probably – after all, he does have a habit of being chased by trucks, whales and other large things that could very easily crush him. But in gaming terms, Sonic's speed is both a blessing and a curse – a spectacular superpower that makes the games potentially unfriendly to newcomers, as hazards hurtle along at a pace that can be tricky to deal with.

So what's it like, designing games for a character whose defining power is his extraordinary speed? "There are a lot of benefits and challenges to keeping Sonic 'up to speed' per se," says Iizuka. "In terms of the challenges, it motivates us to always push the envelope on technology. In fact, that's how Sonic was created! The original creator Yuji Naka was a videogame programmer developing an algorithm that allowed an object to move smoothly on a curve. With the idea of a ball in mind, he partnered with artist Naoto Ohshima to come up with a hedgehog character, as the animals ball up as part of their nature." Of course, that doesn't quite match up with the rather relaxed pace at which most hedgehogs move, and that's where Iizuka feels the team faces adversity. "While hedgehogs aren't particularly fast, that's where we were challenged to think outside of the box and use some creative freedoms," he says. "In terms of the benefits, the theme of speed has allowed us to explore a variety of genres such as platformers, racing games, RPGs and more. It's such a versatile theme because it plays into Sonic's key characteristic of perseverance, and keeps the storyline going as he races toward his next objective."

» [PS3] The green lock-on reticule here shows Sonic is ready to home in on a target, letting him attack accurately at speed.

» [Mega Drive] Speed is a necessity to clear some obstacles – if Sonic's going too slow, he'll just fall off here.

What Sonic's speed has meant to the game design has evolved over the years. In the early days, going fast was very much a privilege rather than a right – indeed, many fans are surprised by the slow pace of stages such as Marble Zone in the original game. "When thinking about the stage design for the entire game, we want to make sure we aren't just repeating the same fun over and over, but that each stage is going to have something unique about it," says Iizuka, before highlighting how tedious the games could become. "If we just had Sonic running fast through all the levels the gameplay would be too simple, so we design things to balance out that exhilaration of high-speed running with tense moments of action platforming," he says. In the very first game, you had to earn the more spectacular moments after leaving Green Hill Zone.

"Moving through a 3D space at high speed has been a challenge since we first did it in *Sonic Adventure* and is something the team has been refining as an experience since then," Iizuka continues. Indeed, if Sonic's mechanics went largely unchanged, then the precision demanded of players would likely have hampered their speed, as they tried to line up to strike enemies. "A lot of work is put into the dynamic balancing and adjusting of handling

» [PC] Chase sequences are a common feature of *Sonic* games that highlight the hero's high speed.

» [Game Gear] At high speeds, Sonic can actually skim across water by running or bouncing.

» [PC] *Sonic Lost World* is an unusual entry in the series because players have access to a dedicated run button.

at high speed, including camera work that all needs to be managed at super high speeds, and not to mention the fundamental level design that needs to guide the player through a fun experience even at maximum speeds," says Iizuka, who also points out the new mechanics added to mitigate the issue. "All the iconic features, such as the homing attack and grinding, were actions born out of this need to design for a fun experience at high speed."

Over the last 15 years, in particular, the emphasis on how to represent Sonic's speed has shifted. "In the more recent games, we have included a boost mechanic and added stages focused on high speed to amplify the speed, but if you looked at the balance in comparison to the older games, the current games probably have more action platforming," says Iizuka. In games like *Sonic Unleashed* and *Sonic Forces*, it can feel as though anything less than top speed is wrong. But at the other end of things, *Sonic Lost World* raised eyebrows by including a dedicated run button. It seems as though the team keeps an open mind as to the best approach, too. "Sonic's speed capabilities are uniquely designed for each game, and vary depending on the game's objectives, but we do always try to take the community's feedback on fan-favourite features into account during the design process," says Iizuka.

Some stages and games are beloved by true speed demons – Chemical Plant Zone's enormous slopes and boosters allow for Sonic to hit his maximum speed, while *Sonic Advance 2* is particularly renowned for how fast you go through its many loops and jumps. Which games would Iizuka recommend to thrill-seeking fans? "Some of the best stages to hit top speeds are featured in *Sonic Unleashed* and *Sonic Mania*," he replies. "Moreover, we have achieved the fastest speed in *Sonic Forces*. In addition, we designed the game with seven special stages that unlock Super Sonic, and as players collect the seven Chaos Emeralds, they'll be able to move the stages at lightning speed." ▶

» [PC] The boost mechanic is vital to modern games, as it allows Sonic to hit his top speed near instantly.

BROKEN SPEEDOMETER

JUST HOW FAST IS SONIC, REALLY?

It's easy to assume, just from his name, that Sonic The Hedgehog is able to run at least as fast as the speed of sound. But is there a definitive answer as to his maximum speed? The short answer is no. The longer answer is that we have some measurements from official sources, but they do all seem to contradict each other.

Sonic has always been described as being capable of supersonic speeds, but that hasn't always been borne out by what we've seen in the games. For example, *Sonic Chaos* features one of the earliest speed measurements in the series, and that counter tops out at 999km/h – but with the speed of sound being around 1,235km/h, that's a subsonic speed. *Sonic Unleashed* throws out much higher numbers for its speed measurement, but doesn't assign units to them, making them rather useless for comparison to anything except other speed measurements from the same game.

Things get further complicated by other claims. The description of the Light Speed Shoes in *Sonic Adventure* tells us that Sonic can move at the speed of light, and the manual of *Sonic Adventure DX: Director's Cut* describes Sonic as hypersonic. That would put his speed at a minimum of Mach 5, or 3,806mp/h. But does that describe him when he's got his speed shoes equipped? How about when he gets all the Chaos Emeralds and transforms into Super Sonic? We already know that Super Sonic is capable of flying through space, and presumably the lack of resistance there would only make him capable of higher speeds.

BUILT FOR SPEED

SPEED IS ONLY WORTHWHILE IF YOU HAVE SOMEWHERE TO GO. HOW DOES SEGA GO ABOUT BUILDING THE ENVIRONMENTS THAT SONIC INHABITS?

When it comes to creating levels, Sonic can be a tricky character to design for. Exploration is often a key part of the platform game genre, and the 16-bit *Sonic* games in particular are known for having some fairly large, sprawling stages. But with Sonic's sense of speed in mind, slowing down and checking out every route is something that many players won't be inclined to do – some might even say it goes against the point of the game. This has been a design conundrum since the very beginning of the series, so how are those things reconciled?

"Level design for 2D *Sonic* games requires application of a core design philosophy – do not create any situation where 'you cannot proceed if you make a mistake'. It sounds obvious as a fundamental rule, but it is also one of the factors that cause stress when thinking about creating the gameplay experience," explains Iizuka, going back to the early days of the series. "2D *Sonic* games are not about carefully moving through the world. We want people to run through at high speed and have a fun time, so the whole 'you cannot progress if you make a mistake' philosophy was taken to heart and level design was approached so that 'even if you fail, there is a different path forward'." Indeed, often the kind of exploration you do in a *Sonic* game is accidental – you'll be aiming for bonuses and an easy ride in the stage's upper reaches, only to fall and discover an alternative route. "That's why we created such a complicated level design with upper and lower routes, much more complicated than many other titles," Iizuka confirms.

» [Mega Drive] Boss battles can add variety, such as the puzzle element of figuring out how to damage this boss.

That philosophy held well through the Mega Drive years, and for a long time to come in handheld games, but in the late Nineties, the team faced the challenge of creating 3D environments that retained a similar feeling. "This was an interesting process, and one that took a lot of hard work from our Sega team," says Iizuka. "Some of the challenges we encountered when creating a stage to feel like a *Sonic* stage in 3D was camera work. For 2D *Sonic* games, you will be able to get to the goal by progressing to the right far enough, but for 3D *Sonic* titles, it was possible to just get lost walking around in any direction so a lot of that exhilaration wasn't there," he recalls. The solution was to use the tools available to nudge the player into following their own instincts, as Iizuka explains. "It was in that environment where the new camera system was born, where even if the road had twists and turns to the right or to the left, it would move to show you the path forward so you would want to continue moving forward into what the camera was showing you, and that allowed us to create the first 3D action title *Sonic Adventure*."

No matter which era of the *Sonic* series you look at, there is a certain expectation of the kinds of environments that should appear, with the early iconography of checkerboard patterns and a progression from natural environments to urban and mechanical ones as the game

» [Dreamcast] Smart camera work helps players navigate open 3D areas like Sky Deck.

HEDGEHOG HEAVEN VS

HEAVEN MOMENT

REEL GOOD TIME

SONIC THE HEDGEHOG 2

■ The slot reels in the background of Casino Night Zone could so easily have just been a bit of background detail, but the fact that you could use them to gamble for more rings really added something to the stage – as did the fact that you had to play pinball with Sonic to do so.

HEAVEN MOMENT

FALSE FINISH

SONIC GENERATIONS

■ Just as in *Sonic The Hedgehog* (2006), Crisis City Act 1 takes place during an ongoing disaster. Right as you think you've escaped the apocalyptic city, the traditional end post gets swept up by a tornado and flies away, forcing you to push just a little further through the devastation to finish.

HEAVEN MOMENT

BURNING BRIDGE

SONIC MANIA

■ When you first try to cross a bridge in Green Hill Zone with the fire shield, it will instead burn and collapse beneath you. It's a special moment that not only opens up a new route, but shows that the development team can conjure up new tricks from the raw material of the classic games.

» [Dreamcast] Grind rails keep you moving in the right direction, and add style points to boot.

» [Wii] In more modern games like *Sonic Colours*, stages often transition between 2D and 3D game styles.

» [PC] Classic stage archetypes have a long history, with this casino stage in *Sonic Forces* referencing *Sonic 2*

» [PC] A big challenge when designing for multiple characters is accounting for all of their unique abilities.

progresses. "Fans that have been following *Sonic The Hedgehog* since the early stages of the series feel connected to these early environments, including the early island/forest stages, casino/pinball stages and underwater stages," says Iizuka. "However, the new updates that we've made to the *Sonic The Hedgehog* series seem to be well-received by newcomers and veterans of the Sonic series, and for that, we are so pleased!" Indeed, while some games like *Sonic Lost World* lean heavily on the old abstract look, *Sonic Unleashed* took things in a different direction with realistic environments that many fans have come to love.

Another area in which stage design philosophy has had to shift over the years is in the creation of boss battles. "We made boss battles a different way to play from the other running stages, and felt it was important to deliver content where the player would get a feeling of satisfaction upon completion," says Iizuka. "For 2D *Sonic* titles, that came at the end of every stage, and for 3D *Sonic* titles, boss battles were used to bring excitement to the story points," he continues – explaining why such battles are less frequent in the later games. "To get that feeling of satisfaction, balance was most important. If the battle was too easy it wouldn't be satisfying, but it also couldn't be too difficult, or things would just be frustrating, so we were always trying to make it the right balance of difficulty."

Making that judgement about difficulty is now a more complex process, too. "In the past, we would usually just play as a team to get input or get the opinions from other co-workers, but if we wanted to get a better read on the difficulty, we would work with external research companies," explains Iizuka. "But today, we run large playtests and get responses to questions like, 'Where did you make a mistake?' and, 'What was stressful about that?', and turn it all into data to analyse and better inform us on how we can better balance the difficulty of the experience."

HEDGEHOG HELL

INSPIRED AND INFURIATING LEVEL DESIGN MOMENTS FROM SONIC'S HISTORY

HELL MOMENT

DEATH PIT

SONIC THE HEDGEHOG 2

■ This nasty little area represents one of the few places in a *Sonic* game where you can get truly stuck, with no way out except death, as you can't jump high enough to get out. Pity those who fall down here as Super Sonic – the wait for your rings to run out feels endless.

HELL MOMENT

BARREL OF DOOM

SONIC THE HEDGEHOG 3

■ You have to press up and down on the d-pad to move this barrel. That isn't explained anywhere in the game or manual, and it reacts to jumping enough to trick you into thinking that's how it works. It isn't, and a whole generation of kids fell at this particularly ill-considered hurdle.

HELL MOMENT

FINAL HAUNT HERO MISSION

SHADOW THE HEDGEHOG

■ All you have to do here is reach the goal ring – but if you use Shadow's Hero power, Chaos Control, you can inadvertently activate switches for the Dark mission and cause the goal ring to disappear. Finishing the stage requires you to backtrack and turn them all off again.

retro GAMER PRESENTS

THE 16-B

NINTENDO V

Everyone with even the slightest knowledge of the history of videogames knows about the great console war. By now it's pretty much accepted folklore that Sega, the plucky upstart with its exciting new mascot and lax stance on bitmapped bloodshed, strolled up to the arrogant giant Nintendo and gave it a big old smack in the mouth, loosening the *Mario* maker's monopolistic grip on the console market forever. But that's just the surface story. Few accounts of the period venture beyond North America, despite the fact that gaming in the late Eighties and early Nineties was far from a global business – the major markets around the world each had their own distinct regional character and preferences. By examining how the well-known American story compares to how the combatants fared in Europe, and particularly the UK, we can get a better picture of how some of each company's actions were driven by rigid corporate cultures, and how willing each was to be flexible in reacting to its circumstances.

BIT WAR

S SEGA

WORDS BY **NICK THORPE**

Mario or Sonic? SNES or Mega Drive? Innocuous questions now, but ones that inspired fierce tribal loyalty in gamers in the early Nineties. We speak to the men tasked with winning hearts and minds for their brands, in a conflict that was as much about image and attitude as graphics and gameplay

Of course, there's a reason that people focus on the North American market – as well as being the largest territory, it's also the most representative of the global average. This story starts with an event just as heavily ingrained in the videogaming mythos as the console war itself – Nintendo's revival of the North American console market, beginning with the 1985 launch of the NES in New York. Nintendo had shrewdly altered the Famicom for the needs of the market, creating a console that didn't look like previous ones, and bundling a toy robot so as to soothe retailers that were still reluctant to stock videogames. It's something that Tom Kalinske remembers well, as he was then at Mattel, which had recently been burned by the Intellivision's collapse during the disastrous 1983 market crash. "All of us who were watching this thought, 'Are you guys crazy? We just collapsed, how can you start getting into this business?' But we were all wrong, and they were right." The system succeeded ▶

WAR VETERANS

TOM KALINSKE

CEO, Sega Of America, 1990-1996

DON COYNER

Marketing manager, Nintendo Of America 1988-1995

NICK ALEXANDER

CEO, Virgin Mastertronic/Sega Europe 1988-1994

MIKE HAYES

Marketing director, Nintendo UK 1989-1994

» Nintendo's early advertising emphasised the family-friendly image it has been associated with for decades now.

SEGA
EUROPES No.1 GAMES CONSOLE
Masses of power, arcade quality graphics, and over 100 great titles available
Sega consoles are the worlds best for value, excitement and fun.
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16 BIT VERSIONS
MASTER SYSTEM £79.99
MASTER SYSTEM PLUS £99.99
OVER 100 GAMES AVAILABLE STARTING AT £9.99
MEGA DRIVE £189.99
POWER BASE CONVERTER £29.99
SEGA
"DO ME A FAVOUR... PLUG ME INTO A SEGA"

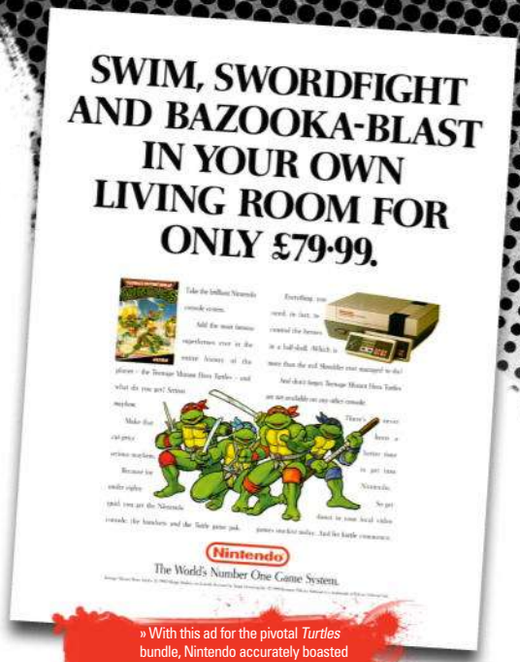
» Sega claimed to be the most popular console brand in Europe, which was true.

» Early Genesis ads in America focused on the system's technological superiority over Nintendo's 8-bit console.

in several more US test markets during 1986, and eventually went fully national that same year. With popular games including *Super Mario Bros*, *The Legend Of Zelda* and *Metroid*, nothing seemed to be able to slow the system down. "We did this commercial where we pulled back from a group of kids chanting 'Mario, Mario' and as you pulled back to the view from space, they're collected in a group that forms Mario's face," says Don Coyner, who joined Nintendo during its late Eighties ascendancy. "That was a fun shoot. Technology has changed so much, that was a new technique – to be able to clone kids. There were only maybe a hundred kids or something, so we had to turn them into thousands." That *Super Mario Bros 3* advert was a fitting visual metaphor for Nintendo's position in the console marketplace, as it dominated both the USA and Japan.

When Nintendo was building its juggernaut, Sega didn't even have a consumer division in North America. Seeing Nintendo's success inspired Sega to localise its own product, and by March 1986 it had decided to adapt its Mark III console for the American market. In the August 1989 issue of *Computer Entertainer*, Sega's product manager Steve Hanawa described having just three months to prepare for a debut at the summer CES in Chicago, and then another three to be ready for launch in September 1986. Scarcely a year later, the company signed a distribution deal with Tonka, a major toy company. Though this deal has frequently been criticised due to Tonka's perceived difficulties in understanding the videogames market, it was a necessity – Sega was a tiny outfit struggling to establish a foothold. When *CVG* interviewed Bruce Lowry, the head of Nintendo's UK operation NESI, in April 1988, he claimed, "Last year 3.2 million Nintendo units were sold in the US and Sega sold less than 10% of that."

Fortunately for Sega, it had a much smoother ride in the European market, where consoles were a minority interest, due to the domination of various 8-bit home computers. Neither console manufacturer had a European office, and it was Mastertronic that spotted the opportunity to become Sega's UK distributor. That, however, required major investment from Richard Branson's Virgin Group. "We, at that point, weren't thinking about Sega and videogames, we were thinking about budget software," says Nick Alexander, who had founded Virgin Games in 1982. "From Mastertronic's point of view, they wanted to raise



» With this ad for the pivotal *Turtles* bundle, Nintendo accurately boasted about its global supremacy.

some money to pay for their first shipments of Sega products for Christmas 1987, and Sega would only supply to their overseas distributors with a letter of credit." The deal started off disastrously. "Sega delivered all of their Christmas product to European distributors on Boxing Day, which created a huge problem because they'd paid for all of this stuff, and then the retailers had cancelled their orders and they couldn't sell any," says Nick. "I went to CES in January 1988, and Nintendo had had their first very good Christmas in the US, and at that point I realised that the videogames part of the business might be quite interesting to us after all," he adds with a laugh. "Mastertronic was actually really struggling for cash, having had all this money sucked out of it by Sega. Sega, understanding that we might acquire the rest of Mastertronic, said that if we were to do so, they would also give us their distribution in France and in Germany, where they had other reluctant or unable distributors." The deal was done, and Nick became CEO of Virgin Mastertronic.

The team at Virgin Mastertronic felt that Sega's Japanese approach wasn't appropriate for the UK, and created its own branding. "They were a very good company at writing games – they weren't particularly a marketing company. So their marketing strategy had followed Nintendo's, being kids playing with mum and dad and aren't we all happy families," Nick recalls. "As Virgin, when we started marketing the product, we went, 'Actually, that's not what people want.' Teenagers want to be rebellious, this needs to be edgy. That's just a much better message for anyone who's over about ten years old, so that's how we went ahead and it worked very well." Virgin's Sega branding was colourful and engaging, built around the, 'Do me a favour, plug me into a Sega,' catchphrase, and following that rocky start, the company managed

It's not even close. The massive Sega™ Genesis™ library is an insane line-up of more than 150 titles. Compared to...well, you get the picture. But we're not just talking numbers here. Genesis is going off with unreal new games like Sonic the Hedgehog,™ Spider-Man,© ToeJam and Earl,™ Golden Axe II™ and Joe Montana II Sports Talk Football.™ Any one of these would be enough to blister your thumbs for weeks. So for the best selection of arcade games, action/adventure, role playing, sports, you name it, check out the Genesis library. Nothing else stacks up.
SEGA GENESIS
It's a whole lot more.
The other guys just don't stack up.
CIRCLE #107 ON READER

» Once the SNES arrived, Sega continued to exploit its early market arrival, this time highlighting its larger software library.

to create a European Sega customer base. It wasn't particularly large, but it was active and the Master System was respectably represented in the magazines that would cover it.

Nintendo's start in Europe was considerably less successful. According to Mike Hayes, who was initially tasked with relaunching the NES, the choice of a non-gaming company as distributor was to blame. "We picked up Nintendo in 1989 when we were at San Serif – we'd made a lot of money with *Trivial Pursuit* and *Pictionary*. It was being looked after by NESI, which was being run by Ron Judy, and Nintendo in the UK and Ireland had been a flop, because it had been distributed through Mattel and it was treated very much as a toy," says Mike. "At that point, Nintendo was virtually a nonentity and the Master System and Atari were dominating. In fact, anecdotally, the main customer for Nintendo at that time was Boots, the chemist. When we picked it up, we were selling through something like 8,000 units a month." While the commonly told history is that the Master System was more popular than the NES in this region, this wasn't true for the entire generation. "The market shares were heavily in Sega's favour, so one of the things we did was we worked with Konami, and we bundled the 8-bit with the *Teenage Mutant Hero Turtles* product and called it the 'Mutant Machine'," says Mike. "It was that, really. That turned the fortunes around because sales went up to 200,000 from 8,000 and we managed to significantly claw market share back from the Master System.

BUT WHAT ABOUT JAPAN?

WHY THE CONSOLE WAR NEVER GOT STARTED IN THE HOMELAND OF SEGA AND NINTENDO

On paper, Nintendo and Sega should have been a classic Japanese rivalry. Much could be made of a battle between Nintendo, the established traditionalist company based in the ancient capital Kyoto, and Sega, the Tokyo-based upstart founded by American serviceman. But the truth is that there was never much in the way of real competition between Sega and Nintendo in the Japanese market – at least, not during the cartridge era.

Both companies launched their first cartridge-based home consoles in July of 1983, and by the end of 1984 Nintendo's Famicom had decisively bested Sega's technologically inferior SG-1000. The revised Mark III, which was the basis of the western Master System, didn't help Sega to gain significant ground when it launched in 1985. NEC's PC Engine launched in 1987 and pushed Sega into third place, a situation that wasn't changed by the launch of the Mega Drive in 1988. By the time the Super Famicom arrived in 1990, the concept of Sega as legitimate threat to Nintendo's domination of the Japanese market would have been present in only the most deluded of fanboy minds.

This wasn't helped by the fact that *Sonic* was far less successful in Japan than elsewhere, despite Sega's best efforts. While *Sonic* was supported with all sorts of arcade spin-offs, licensed toys, a manga series and even a promotional campaign with the enormously popular pop group Dreams Come True, the Japanese public never embraced him in the same way western audiences did. To illustrate the point, in April 1993, *Sega Force*'s Japanese reporter Norton Kai explained that a £6.5 million advertising campaign for *Sonic 2* had delivered an official figure of 400,000 sales – far below Sega's target of a million.

It would take another generation for the two companies to reach parity in Japan. Sega experienced its greatest Japanese success with the Saturn, fuelled by the *Virtua Fighter* craze, while the loss of key developers and a lack of RPGs proved ruinous to the N64's chances in Japan. Of course, by that point both of them were fighting over second place, with both consoles way behind Sony's PlayStation.

ART ATTACK

Though the console war's attack ads were most prominent on the other side of the Atlantic, the battle was brought to life in vivid detail on the letters pages of the UK's games magazines. Even as early as 1991, well before the SNES officially arrived on these shores, you could find art of Sega and Nintendo heroes hitting, shooting and generally maiming one another – with the focus naturally being on figureheads Sonic and Mario. Here are some of the contributions received by Sega Power *and* Total! *back in the early Nineties...*

Way to go Mario! And thanks to Liam Donaghy of County Derry for this amusing little stripette.

16 year old Rob Parry from Southport has been at it again. Here's his latest rib-tickler. Keep 'em coming, Rob

» Nintendo's print ads rarely focused heavily on Mario, and tended to be less colourful and engaging.

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SUPER MARIO 3
The new NES Sets from Nintendo are the ace way into the hottest gameplaying action around.
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Er, Robbie Dickinson (from somewhere), you're a very sick man. Keep it up! Ooh, it hurts just to look at it...

Christian Weber from Chester even manages to catch Alex Kidd in the act of drop-kicking Mario right in the mush. Way to go, Alex! And look at all the detail in the background – our Art Ed better watch out!

AGED BEEF

When you look at the state of the PS4 vs Xbox One discourse of the last era, it's easy to wonder if we were always like this. Thanks to the magic of ancient Usenet discussions, we can tell you that console wars never change. Can you tell the vintage videogame venom from today's troublesome tweets?

» In the USA, Mario was well known enough that this famous advert didn't seem so far-fetched.

» Sega countered Turtle Power by heavily promoting its own mascot Sonic The Hedgehog, which paid dividends.

[1] *"Just face it: the _____ beats out [competing console] in the RPG department and that's why [competitor] forced me to buy a _____."*
PS4 or SNES?

[2] *This has nothing to do with why _____ sucks. They've been in the game for years and haven't provided one single solitary positive mark on the industry besides [Sonic/Halo].*
Sega or Microsoft?

[3] *Here's a compromise. Give _____ the censored version since they're all about that censorship anyway and give [competitor] the uncensored version. Everybody wins.*
Sony or Nintendo?

[4] *I chose a _____ over a [competitor] simply because it had titles available that I absolutely wanted to play. I couldn't care less if the [competitor] has a technical edge over the _____, the _____ still looks and sounds pretty good.*
Mega Drive or Xbox One?

[5] *I totally disagree with the _____ crap. [Manufacturer] sucks and no game made for both [competing console] and _____ is better on _____.*
Genesis or Xbox One?

Around 1990-91, we were well into the 60% market share piece. But I think the true battle began when they launched the Mega Drive."

Indeed, this was the hardest fought battle – and in the beginning, Sega couldn't even be assured of a distant second place when it started in North America in late 1989. The electronics giant NEC was launching the TurboGrafx-16, a rebranded and redesigned PC Engine, within weeks of Sega releasing the Mega Drive, now renamed to the Genesis. But NEC's $10 million marketing push failed quickly and spectacularly, to the point that NEC abandoned its planned European launch. Sega quickly aimed its American marketing message towards trying to capture market share from Nintendo, and it launched the famous 'Genesis Does What Nintendon't' campaign that highlighted the system's graphical capabilities compared to those of the NES, as well as drawing attention to its arcade conversions and celebrity endorsed sports games. Taking on Nintendo in such a direct way was a bold move for an underdog competitor, but despite an improvement of sales compared to the Master System, progress was slow over the first year. "Sega Of America was a disappointment to Sega Of Japan, to Hayao Nakayama," says Tom Kalinske. "He thought they should have been able to sell a million Genesis units, and they had not come close to that number." Tom was hired as the new CEO in late 1990. At the same time, the Mega Drive was just launching into Europe, where Sega was looking to consolidate its progress and take a more direct role. "We added Spain in 1990 because we'd done a jolly good job, and then in 1991 we sold ourselves effectively to Sega," says Nick. "We split what was Virgin Games into two bits – Virgin retained the publishing bit, which became Virgin Interactive Entertainment, and I went off to run the marketing, sales and distribution bit, which became Sega Europe in summer 1991."

Tom had previously encountered Nintendo prior to joining Sega, as CEO of Matchbox Toys. "At the time, we wanted to do a Matchbox Nintendo game," he recalls. "So I had to deal with Howard Lincoln and the Nintendo guys way back then." One of Nintendo's main innovations concerned the way it dealt with third-party developers. NES developers were required to sign a licensing agreement on Nintendo's very restrictive terms, including content approval processes, with a lockout chip in place to thwart those who refused. "I saw how you had to meet certain quality standards, they reviewed the gameplay. They were tough, they were really hard to please. So I had that opinion of Nintendo – first of all, congrats on rebuilding the videogames business, but gee, do you treat your third parties terribly!" This practice had ensured the NES wasn't killed by a glut of poor software, but it was a huge burden for third-party publishers. Companies had to buy all their cartridges from Nintendo, pay for them in full up-front and couldn't return them. Nintendo limited publishers to five game releases per year, and those games had to remain exclusive for two years – meaning that NES developers typically didn't work on the Master System.

With the NES selling so well, many companies accepted these terms in order to get on the gravy train. Others were dissatisfied with the situation, most notably Electronic Arts, which saw the new generation as an opportunity to back a rival platform. By proving that it had reverse-engineered the Mega Drive and could release unlicensed games if it chose to, it was able to negotiate concessions from Sega that would have been unthinkable from Nintendo. The key one, later granted to other companies including Konami, Acclaim and Accolade, was the ability to manufacture its own cartridges, allowing EA to manage its own costs and order quantities. In return, EA provided strong support with plenty of popular sports games as well as flight simulators and more. Sega also set up American development studios to provide games suited to local tastes. Sega's 16-bit software supply would be much healthier than what it could provide for the Master System.

In the summer of 1991 the American launch of the SNES was imminent, and Sega had cause to be concerned as it would lose its technological superiority. Nintendo's machine could display more colours, and *F-Zero* showed off playfield scaling and rotation that Sega's machine couldn't do. Then there was *Super Mario World*, the best game in an already beloved series. But at the perfect time, Sega's trump card arrived – *Sonic The Hedgehog*. While it didn't have the longevity of *Super Mario World*, the flagship SNES platformer, it was incredible to behold thanks to its detailed graphics and amazing speed. Sega wasted no time in drawing comparisons between the two games, and embarked on a tour of American shopping malls, allowing players to try both games and make their own minds up, while TV ads featured a salesman desperately trying to flog the SNES to a gamer who was interested in the faster game on the cheaper console. You might reasonably assume this was risky, but that's not how Tom sees it. "We had done research at Sega Of America, and in our research we knew that teens preferred *Sonic* over *Mario* when they had a chance to play them side by side, so we knew the mall tour would work," he explains. "We knew that the competitive advertising would work, because it would at

» [Mega Drive] *Altered Beast* was a reasonable pack-in, but didn't shift hardware in the numbers Japan wanted.

[6] *If _____ fans were on the Titanic, I wonder how many of them would be insisting that there was nothing wrong with the boat?* ***Sony or Nintendo?***

[7] *When I think of a _____ player I think of someone headstrong, cool, not afraid to go against social and cultural norms, someone who likes sports and probably has no probs hooking up.* ***Genesis or Xbox One?***

[8] *_____ has absolutely won a lot, problem is idiots who think units sold is the only factor. Did [competitor] sell more? Yes, but [manufacturer] made more _____.* ***Genesis or Xbox One?***

[9] *Overrated? I dunno if I'd ever use that word to describe a [competitor]! I don't think they're popular enough to be overrated. Probably the most hated system out there to be honest. They're not bad if you don't care about exclusives, I played mine a lot! But _____ does have better games.* ***PS4 or SNES?***

[10] *I don't want to offend anyone, but I'm beginning to think that _____ players are mostly prepubescent boys with too much time on their hands.* ***PlayStation or Nintendo?***

[ANSWERS] *1: SNES, 2: Microsoft, 3: Sony, 4: Mega Drive, 5: Genesis, 6: Nintendo, 7: Xbox One, 8: Xbox One, 9: PS4, 10: Nintendo*

» Sega ran anti-SNES adverts in British magazines, including Nintendo titles like *Total!* as well as multiformat publications.

least jolt the Nintendo user to give us a try. We spent millions – I don't want to underestimate the amount we spent, I don't remember the exact number – but it worked. Sonic became more popular than Mickey Mouse back in those days, certainly more popular for a while than Mario. It was really a well-researched and well-thought-out campaign, and that was led largely by Al Nilsen." The game drove Mega Drive sales as a pack-in title, despite the Japanese office's concerns about giving away the system's best game, and the success of that campaign fed into the creation of further confrontational advertising.

Nintendo's decision was that for the US market, the best response was no response. "Sega was doing a really good job of repositioning Nintendo as the kid's machine, your little brother's machine, and they were having some success at that," says Don. "Nintendo was pretty focused, Mr [Minoru] Arakawa who ran the company was pretty intent on, 'Don't react to what these guys are doing, just stay completely focused on what we're doing.' But Sega was very effective, and Sonic The Hedgehog as a character was very effective – the way they positioned him as cool, hip, a little bit irreverent, was kind of repositioning us." One subsequent TV spot showed teenagers talking about how the Genesis was cheaper and had more games than the SNES, with one describing anyone not playing Sega's console as a "giant loser", while another showed a TV playing *Sonic 2* attached to a dragster, compared to an old banger with *Super Mario Kart* hooked up. "They were very aggressive coming at us head to head. I would say for the most part, we didn't respond to any of it in particular," says Don.

In the UK, where Nintendo was behind, it was a slightly different story. Though TV advertising laws prohibited direct attack ads of the kind seen in the USA, Nintendo did briefly take direct shots at Sega in print campaigns – most notably buying the centre pages of the first issue of *Mean Machines Sega* to advertise *Street Fighter II*, then a highly coveted exclusive. But while the marketing team wanted to make changes to Nintendo's presentation, it was largely denied the opportunity to do so. "There was a big difference between the way Nintendo and Sega were run. [At] Nintendo, we reported in to Mr [Minoru] Arakawa in Seattle, and Mr [Hiroshi] Yamauchi used to approve our TV scripts – the control was phenomenal," says Mike. "The Sega style in the UK was quite anarchic and quite out there, and suited the British audience, whereas Nintendo was 'boing' and 'bouncy' so we always felt we were being outgunned – not outclassed, but outgunned – by the crazy Sega guys, and we were definitely hampered and hamstrung by the pretty dull rules that Nintendo would lay down. We couldn't do what we wanted to do. In fact, a multimillion pound TV campaign that I'd worked on very hard was cancelled, which is why we switched to the Rik Mayall ads at the last minute, because they wouldn't approve it."

One peculiarity of Nintendo's approach in both regions was its tendency to preach to the converted. "The one thing that Nintendo was good at, and still is very good at, was harnessing its core fanbase. We had Club Nintendo, and we had a huge operation just dealing with customers and sending out monthly magazines," says Mike. "Interestingly of course, that also played to Nintendo's disadvantage, because it wouldn't engage with the media as much as Sega would do. In fact, we launched the *Official Nintendo Magazine* – I can't remember, but it was only in

» Initially, Nintendo didn't respond in the US, preferring instead to evolve its existing brand messaging.

1992 or 1993. Club Nintendo was great for your fanbase, but didn't reach out to the wider gaming audience – but once we did connect, it was a very good relationship that we had." Don remembers things being similar in America. "We did a bit of print, although Nintendo was not a big advertiser in all the gaming magazines – we had *Nintendo Power* and kind of focused on that, and didn't want to give other game magazines a bunch of money."

Meanwhile, the greater autonomy afforded to Sega's international branches allowed them to really push the brand into new areas, particularly when it came to older audiences. "We did a lot of things people weren't aware of," says Tom. "On every United States college campus, we had a 'Sega person' who we gave hardware to, and sent them software regularly, and asked them to wander around the male dormitories and plug it in to play with whoever was there to watch and get involved with it. We were one of the first companies to sponsor MTV in the United States, and obviously that was for teen and older audiences as well." In the UK, Sega's anarchic Pirate TV advertising campaign turned heads, particularly as the company booked out entire commercial breaks for them, and advertising with *Viz* brought about some risqué campaigns that have since achieved infamy. Sega Europe also pushed into mainstream sports, with its branding prominently visible at Premier League football stadiums and Formula 1 races. "We sponsored the European Grand Prix, which became the Sega Europe Grand Prix, and I got to give Ayrton Senna his prize on the podium," says Nick. "That certainly is a personal highlight – I would rather have been giving it to Damon Hill, but it was quite something to be up there!"

But although Nick agrees that Sega had more autonomy, it was hardly an easy ride. "We had fairly major rows with Sega Japan, and they weren't at all convinced by what we were doing," he remembers. Though he and his staff were now employed by Sega, the culture was still that inherited from the Virgin days. "When we were just the distributor it was up to us what we did. But when we became a wholly owned subsidiary, they started wanting to try to influence us more, but actually we fought hard to keep our independence and they respected the results that we were achieving." Tom had a very similar experience. "Nick and I used to joke about this," he says, remembering his own battles with head office. "We both were very aggressive in our marketing against Nintendo, and of course Sega Japan was not, and Sega Japan did not agree with that strategy. We were very aggressive in our advertising messages, our promotions, our pricing – we cut our prices several times – and Sega Japan would always say back to us, 'Why don't you do things the way we're doing them here in Japan?

HEAD TO HEAD

How did the Mega Drive and SNES fare against each other in representing some of the biggest multiplatform games and licensed properties of their generation?

SNES

STREET FIGHTER II

■ Owners of both consoles could be satisfied that they had great conversions of the hottest arcade game of the era, as Capcom did a fantastic job with both. Nintendo's version just clinches it, thanks to better colour and clearer voices, as well as a standard pad that actually has six buttons.

NBA JAM

■ No matter which version of this classic arcade sports game you play, you'll enjoy excellent visuals and fast, responsive gameplay. However, the Mega Drive version dunks on the SNES iteration as the latter only features menu music, with no in-game tunes – a truly baffling exclusion, really.

MORTAL KOMBAT

■ The SNES should walk this, thanks to superior graphics and the Mega Drive version's lack of six-button support. But the gore and fatalities are very much the point of *Mortal Kombat*, and Nintendo's censorship policies really ripped the spine out of this brutal brawler.

FIFA INTERNATIONAL SOCCER

■ EA's sports games were generally much better regarded on the Mega Drive than on the SNES, and the debut of this enduring franchise is no exception. While the two games are presented well, the Mega Drive version feels more responsive and enjoyable.

T2: THE ARCADE GAME

■ Both versions are amongst the very few reasons to bother with their respective systems' lightguns, but the SNES has a clear edge when it comes to representing the original. The Mega Drive version's soundtrack is good, but the SNES game is way more attractive and authentic.

MEGA DRIVE

» [SNES] Sega could no longer boast a power advantage when faced with Mode 7 games like *F-Zero*.

▶ Why don't you use our TV commercials and dub English over them?'" It was a suggestion that failed to convince either man, as Nick recalls. "I hope I was polite, but I tried to put across that perhaps they might do better if they used the European ads in Japan, as they only had a 14% market share there!"

While everyone had their frustrations with their Japanese head offices, they enjoyed causing mild trouble for each other. "There were comparisons, but the rivalry was always friendly. We launched the Rik Mayall TV commercials, we did this in The Ark in Hammersmith, and Sega brought along spotlight vans and shone Sega logos on the side of it – it was that kind of stuff," says Mike, who also remembers how both parties were keen to flaunt their successes. "When we were at the marketing awards, this was in 1992 and Nick had his people there – they won a top award for either the Mega Drive or the advertising. Nick come over to me, because we had a table, cocky as you like and said, 'Oh don't worry, you'll win one of these one day,' and I said, 'We did, last year with the Game Boy!'" Similar shenanigans went on in America. "At CES, we heard that Nintendo was dropping the price of their hardware, and it appeared it was going to be announced the next morning," says Tom. "Our team stayed up all night and went to a Kinko's or some kind of printing shop and had new price lists printed, new PR messages printed, and we even did fake newspapers with the headline 'Sega Genesis drops price to…' whatever it was. We put them under doors, in the hotel, of all the buyers at CES. Everybody got up the next morning and thought that we had cut price first, and then Nintendo had to follow us."

» Since it was fighting from a disadvantage, Nintendo went on the offensive slightly more often in the UK.

But sometimes, Sega's willingness to push the boundaries caused it trouble. While the Mega-CD gave developers an early taste of the next generation's dominant storage format, the hardware's high price and weak games damaged consumer trust. The company was also more tolerant of violent imagery than its rival. "Allowing the real blood in *Mortal Kombat*, that clearly sent a message that we were for older teens and college students," says Tom. "That was really a stab at them where the audience suddenly realised, 'Geez, Nintendo really is for little kids.'" But that wasn't how the press or politicians saw it – to them, *all* videogames were primarily for younger kids.

TOY STORY

■ Both versions of this Pixar tie-in offer a good time, with detailed prerendered 3D graphics and a good variety of things to do. However, for some reason the SNES version omits the technically impressive racing level Day-Toy-Na, making the Mega Drive version the one to play.

ALADDIN

■ Some swear by the amazing animation and sword-swinging combat of Virgin's Mega Drive game, while others think that Capcom's SNES version offers superior control and level design – particularly during the magic carpet ride. We narrowly prefer the Mega Drive version.

ALIEN 3

■ While the film was considered a duffer when it debuted, these platform shooters are both pretty good. The two versions are completely different. The SNES game is a bit slower but more fun, as it doesn't suffer from the camera positioning problems that mar the Mega Drive game.

JURASSIC PARK

■ These were two different games entirely, and while the Mega Drive version lets you be a dinosaur, BlueSky Software's interpretation is a relatively unambitious 2D platformer. Ocean's SNES game mixes top-down sequences with first-person dinosaur encounters, and is more exciting for it.

ADVENTURES OF BATMAN & ROBIN

■ Both of these games look amazing – Konami's SNES version looks like a cartoon come to life, whereas the Mega Drive version uses every clever coding trick in the book. Neither version is a pushover, but the SNES version isn't quite as difficult as its rival.

» [Mega Drive] *Sonic 2*'s internationally coordinated launch was a news event, and Nick's "moment of greatest triumph".

» Steven O'Donnell frequently fronted Sega's UK TV campaigns in the early Nineties, with Rik Mayall becoming his Nintendo counterpart.

» [Mega Drive] Electronic Arts' Mega Drive output was wildly successful, and showed other third parties that choosing Sega was safe.

In America, Sega took the brunt of the criticism in 1993's congressional hearings on videogame violence, with its version of *Mortal Kombat* as well as the notorious Mega-CD game *Night Trap* singled out for scrutiny. They also drew the attention of the UK press, despite *Night Trap*'s legally enforceable BBFC 15 rating, and this led to a memorable moment for Nick. "We were actually interviewing PR agencies the day that the [*Daily*] *Mail* ran their 'Sega Sickener' story, and one of the agencies came in and threw the *Daily Mail* on the table and went, 'This is disgusting, how can we possibly work with people like you who do this sort of thing?' And I said to them, 'Have you actually seen the game?'" They hadn't, so Nick decided to show it to them. "The managing director, you could see him go, 'Oh for goodness' sake, what have I done?' when we showed them it all politely, and off they went."

As the generation continued, the two sides eliminated each other's advantages. Though legal pressure had forced Nintendo to drop its mandatory no-compete clause for licensees, it still had leverage. "I know they don't admit this, but they would say to third parties, 'If you publish on Sega Genesis, you're going to have a problem – we're not going to approve games, and we're not going to give you the quantities you want of your cartridges,'" says Tom. "We had to have a lot of hardware in the market before those companies would feel brave enough to go against Nintendo." Sega reached that point, eventually attracting support from major third-party publishers including Konami in 1992, plus Capcom and Ocean in 1993. And while Nintendo's relative conservatism had allowed it to avoid embarrassing incidents, there was an eventual recognition that it needed to counteract some of Sega's moves, starting with the 'Play It Loud' campaign in 1994. "We'd go out and do picture sorts with gamers – 'If Sega was an animal, what would it be?' And it was sort of a leopard or a cheetah, it was something very fast, and Nintendo was things like an elephant – it's big, it's lumbering, it moves slowly, but it's not a leopard," says Don. "We decided to do a campaign that seemed un-Nintendo-like, to try to show a bit of attitude – 'Okay, we're not just about *Kirby's Adventure*, this pink thing that floats around, there's more attitude there,'" he explains. A Nintendo TV

HANDHELD HOSTILITIES

THE CONSOLE WAR WASN'T JUST FOUGHT IN THE HOME – PLAYERS COULD LITERALLY TAKE IT INTO THE PLAYGROUND

The battle between Nintendo and Sega didn't just coincide with the introduction of 16-bit consoles, but also handheld systems. Nintendo launched the Game Boy in 1989, featuring an economical design with a four-shade greyscale screen that made it look considerably less impressive than its initial rival, Atari's full colour Lynx. However, that design made the Game Boy cheaper to buy and thanks to its superior battery life, cheaper to run. Sega jumped into the market in 1990, repurposing its 8-bit Master System console for the job. The Game Gear faced many of the same problems as the Lynx, such as a high price and poor battery life, but its technology wasn't as impressive. However, Sega could at least guarantee a steady supply of software.

"I actually loved the Game Gear, despite our problem of eating up batteries," says Tom. "I loved the product – the colour screen, I thought it was really high quality, and I liked competing against the Game Boy. Actually, in the US there were some periods of time where we – and we were more expensive, obviously – outsold the Game Boy." However, Nintendo was confident. "When the Game Gear came out it was colour, it had a bigger screen. The Game Boy – you needed to shine a light on it if you wanted to play it in the dark," says Don, who recalls management's recognition that it had a market-appropriate offering. "It was like, 'Don't worry about it, we're $89, we have significant battery life and their games aren't as good.'" Of course, the belligerence was still there, and both Don and Tom remember the campaign in which Sega explained how a dog wouldn't care about having a monochrome handheld instead of a colour one, but would also enjoy drinking from a toilet.

As well as having hardware advantages, Nintendo had the *Tetris* phenomenon on its side. Though widely available on other platforms, it is best remembered as the Game Boy's bundled game. Though the Game Gear had some bespoke *Sonic* games, it couldn't match the universal appeal of the addictive puzzler. The exact number of Game Gears sold prior to its 1997 discontinuation is hard to nail down – *Famitsu* claimed about 10.6 million in mid-1996, while Sega's Hideki Sato claimed about 14 million in a 1998 interview. Neither figure is especially flattering next to the 54.76 million Game Boy consoles sold up to March 1997, though.

» Nintendo rarely acknowledged its competition in most places, so this advert that references Sonic has a very distinctive UK flavour.

» Sega saved its most savage attacks for the handheld battleground, where it had a rougher ride against Nintendo's dominance.

» [SNES] In late 1994, *Donkey Kong Country* on the standard SNES made Sega's decision to launch the 32X look foolish.

» Sega's marketing was often bold – in the case of these Pirate TV ads, booking out entire prime time commercial breaks.

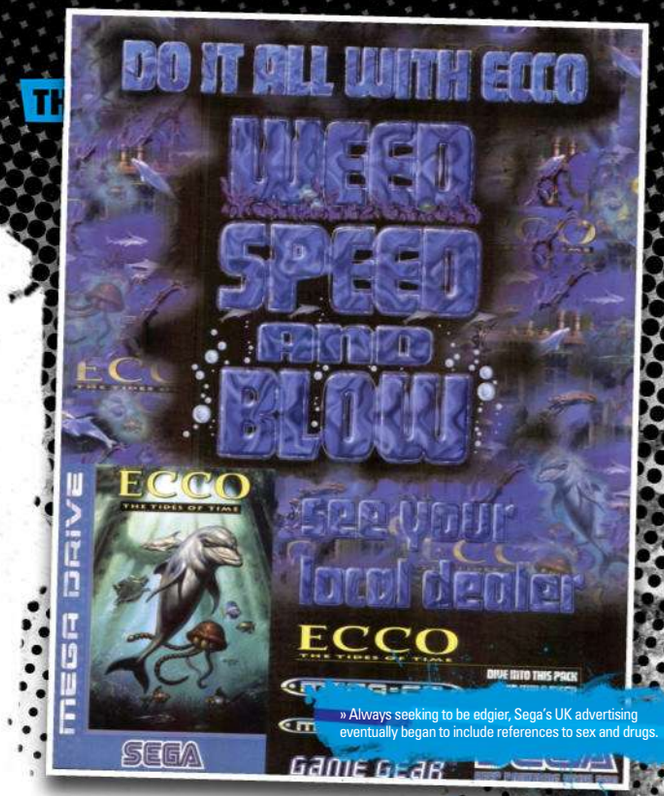
» In an attempt to regain some of its cool factor, Nintendo launched the 'Play It Loud' campaign in 1994.

spot featuring the Butthole Surfers would have been unthinkable just a couple of years prior, as would an uncensored *Mortal Kombat II* – but the introduction of ratings systems also gave Nintendo the excuse it needed to relax some of its policies, and the key arcade conversion fared much better against the Sega version.

Neither side was able to claim a decisive victory in the 16-bit battle but Sega seemed to be narrowly ahead in these regions. Sega claimed 55% of US 16-bit hardware sales in 1994, and the picture was similar in the UK. "We could never get above the 40% to 45% share with the 16-bit," confirms Mike. "The Super Nintendo was a better machine, there's no doubt about it, but how many times have we seen better technology not perform as well as more appropriate technology?" Yet it was Sega that would ultimately blink first. Having been convinced of the value of arriving to market early, it introduced the 32X upgrade in late 1994 – another disastrous add-on that damaged Sega's brand image, as it was soon dropped following the mid-1995 surprise launch of the Saturn, the true Mega Drive successor. Nintendo delivered Rare's *Donkey Kong Country* that Christmas, and the platformer's prerendered 3D graphics proved that there was life left in 16-bit. The game sold 9 million copies, and Nintendo stuck with the SNES as its primary platform through to 1996 – admittedly, partially due to its delayed Nintendo 64 launch.

Some cynics would have you believe that for all of the sound and fury, the console war was largely inconsequential as the next generation saw both competitors squashed by Sony. You could certainly argue that neither party saw a benefit. Though Nintendo sold more SNES consoles than Sega did Mega Drives on a global basis, it marked the start of a long-term decline in Nintendo's home console business, as the SNES sold over 12 million fewer units than the NES had and the N64 and GameCube would do even worse. Nintendo eventually had to abandon its attempts to stay on the technological cutting edge in order to stop the rot. As for Sega, breaking Nintendo's virtual monopoly in the console market was of little benefit. By the time the company published its final Mega Drive game in the autumn of 1997, the Saturn was already moribund and the Dreamcast was being developed. Less than four years later, that console would be discontinued too, marking Sega's withdrawal from the console hardware market.

However, it would be foolish to ignore the impact that the console war had. The conflict drove interest in gaming as a whole – Sega's sales increased by 350% from 1989 to 1993, and despite losing market share in home consoles, Nintendo's sales increased by 118% over the same time period. This growth saw the UK's console market surpass home computer market revenues in 1992,



» Always seeking to be edgier, Sega's UK advertising eventually began to include references to sex and drugs.

and while few of the new competitors that were attracted to the console market were successful, one of them clearly learned from the battle. Much of Sony's approach to marketing the PlayStation was an evolution of what Sega had done with the Mega Drive – broadening the age demographic and effectively courting third-party publishers.

As a pop culture moment, the war between Sega and Nintendo still resonates, to the point that was slated to be dramatised as a TV series based on the *Console Wars* book by Blake J Harris. "It was catching the imagination. Interestingly, now because games are totally mass market, that kind of interest isn't there any more because it's just established, like the music industry and the film industry," opines Mike. "But then, to the outside world and to the *Daily Mail* readers, it was one of these curiosities that kind of caught the attention, so we could play on that hugely." Nick agrees that the era was a pivotal time in gaming history. "Nowadays we're used to the latest videogame releases being on the news and being heralded as huge entertainment products, but *Sonic 2* was the first time in most of Europe that a videogame was outselling major movie releases and the most successful books or music tracks," he recalls. "I think that was a turning point, not just for us but actually for the industry, in normal news media going, 'Blimey, actually this is quite big and this is quite serious business.'"

Indeed, gaming is big business now. Platform holders have to make things easy for publishers, for whom writing two different versions of games for two different formats is long past economically viable, so every console has to act like every other. As globalisation and the internet have reshaped our world, localising your marketing message isn't nearly as important as it used to be. To be blunt, a conflict like the one Sega and Nintendo had in the early Nineties isn't just unlikely to happen again – economic realities have changed the games industry to ensure that it never will. But that's why those of us that lived through it will always treasure that time, and that's what ensures it will live on in legend.

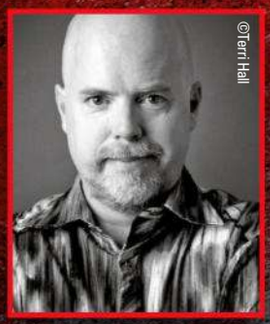
DISSECTING

WHEN ID SOFTWARE RELEASED ITS SHAREWARE GAME DOOM IN 1993 NO ONE KNEW JUST HOW INFLUENTIAL IT WOULD BECOME. JOIN US AS WE CELEBRATE ONE OF THE MOST IMPORTANT FIRST-PERSON SHOOTERS OF ALL TIME WITH CO-CREATOR JOHN ROMERO, DIRECTOR, TOM HALL AND THOSE THAT HAVE BEEN INFLUENCED BY IT

WORDS BY ADAM BARNES, DARRAN JONES AND NICK THORPE

JOHN ROMERO

SCOTT MILLER



©Terri Hall

TOM HALL

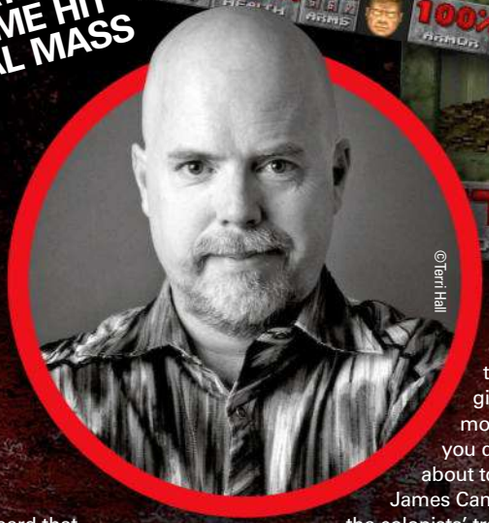
Today's gaming landscape would be very different without the influence of id Software's *Doom*. While it certainly wasn't the first game to adopt a first-person viewpoint, let you run rampant around mazelike arenas or go head-to-head against like-minded players with a thirst for destruction, it's arguably the game that laid the groundwork for everything that followed. There are numerous reasons why virtually every single shooting game that followed in its gory wake was referred to as a '*Doom* clone' and not a '*Wolfenstein 3D* clone' – id's hellish blaster did everything right, from its meticulously designed levels, to its satisfying weapons and imaginative enemies. *Doom* felt like a perfect storm, a culmination of all the techniques that John Carmack and the rest of id's talented development team had created whilst working on games like *Hovertank 3D* and *Wolfenstein 3D*. For many, *Doom* felt like the second coming and it proved that brutally fast-paced action wasn't just found in arcades, it could be enjoyed on the very systems typically used to create spreadsheets and other mundane tasks. *Doom* helped make PCs exciting, and even Bill Gates realised the game's appeal and starred in a video to help promote the release of *Doom95* on Windows 95 as Microsoft helped push Windows as a serious option for gamers.

Doom's gargantuan success, along with the continued interest in 3D gaming, saw plenty of other developers racing to market with their own takes on the popular game. Chief among them was id itself, which continued to push the first-person template with *Doom*'s very own sequel in 1994 and later with *Quake*, which ushered in proper 3D graphics, but there were plenty of other contenders to *Doom*'s throne, including *Heretic*, *Hexen*, *Star Wars: Dark Forces*, *Duke Nukem 3D* and countless others. Some games shamelessly copied *Doom*, while others went out of their way to improve on id Software's formula, whether it was by adding ever more over-the-top weaponry, or using a completely different setting, from dark fantasy/horror to familiar Earth-based adventures to separate their games from the Martian carnage of id's shooter. Some of these games were converted from *Doom*'s own engine, while others were built from the ground up in order to best fulfil the visions of the teams behind them.

Even today, the love and respect developers and gamers have for *Doom* within the industry runs deep, with even co-creator, John Romero recently returning to the game in order to create a brand-new set of levels for his expansion, *Sigil*. *Doom* was like a lit match to tinder and it ignited a passion in gamers that is only shared with the very greatest videogames today. We're delighted, then, to be able to look at id Software's game in a little more detail with both John Romero and Tom Hall and examine both its design and the aspects – from modding to the many bizarre systems that can run it – that have made *Doom* so memorable.

CREATING DOOM

TOM HALL ON DOOM'S CREATION, THE DOOM BIBLE AND WATCHING THE GAME HIT CRITICAL MASS



On its release, *Doom* felt like the culmination of a perfect storm. It featured cutting-edge technology, was freely available to play (thanks to a shareware distribution model) and it delivered an exciting arcade-like experience that few other games could match. Tom Hall, *Doom*'s director, explains how it all came together and when the development team realised just what it had created.

What did directing *Doom* involve?
Well, in early development and early id, [John] Carmack did mainly the engine; [John] Romero, the tools; me, design; and Adrian [Carmack] did art. […] After doing many games together… we did *Commander Keen* one through three in two-and-a-half months. Romero also blasted out some levels near the end. Same for *Commander Keen* four through six, where he had more time and did great levels. Same for *Wolfenstein 3D*. Same for *Doom*. However, as documented in *Masters Of Doom*, that broke down with creative differences and such.

But generally, once the concept was agreed upon, [I was] creating a small story/theme, coming up with weapons (Carmack came up with the BFG, though, only he knew he could draw something that big!), world map, layout, coming up with monsters… I fought for non-bipedal monsters in *Doom*, so we got Cacodemons and Lost Souls – *something* needed to not come unsurprisingly walking at you on the ground. Then levels and ideas like 'nextcol scrolling' which allowed scrolling textures kind of for free.

Tell us about the *Doom Bible*…
I made it because I'd heard that TV shows have a 'show bible' that dictates what you can and can't do in the world, with characters and other details, so that seemed appropriate. Previous games we kind of just 'did'. I'd draw up a monster or idea for something, and Adrian would draw it brilliantly. For a game like *Rescue Rover,* with lots of puzzle elements, I did a design doc. But we were trying new stuff with making 3D models and getting them into the computer in rotations with a video camera. So there were more details and tech and tools for this game, so it seemed the time to make a more centralised repository of project info.

What elements never made it to the final cut?
Most obviously, the characters. We'd decided to have four-player multiplayer or co-op, so I imagined those four characters were sitting around a break room, playing cards, then a demon bursts in the room and it 'kills' whoever isn't playing. You are alone playing, it kills three. If it is four-player, no one dies.

Also I had a character that was just ahead of you called Buddy, telling you scraps of info, giving you direction, but most importantly, giving you dread for what you are about to head into, like in *Aliens*. James Cameron shows you all the colonists' transmitters are in the same place, so you have dread the whole way approaching it. It just gives a deeper experience to what you are going through. Also, like *Aliens*, you'd finally see Buddy, only to have him ripped in half by the Barons Of Hell, showing how dangerous they were, like ripping Bishop in half.

What improvements do you feel *DOOM* made over *Wolfenstein 3D*?
Of course, fully texturing the environment. Lighting, getting an even better set of progressive weapons and multiplayer. The best thing to me was going full dark. No game to my knowledge had, however briefly, just turned the lights off. That was terrifying. *Doom* was 'scarydarkfast' and that was really unique. *Doom* and *Doom II* had that. I didn't feel all three parts again until the most recent *Doom*.

You must have some interesting stories…
I remember almost making a game for Paramount for *Aliens* (Adrian was super-excited

AFTER DOOM

SELECTED SEQUELS AND SPIN-OFFS THAT FOLLOWED IN DOOM'S WAKE

DOOM II: HELL ON EARTH

RELEASED: 1994
id Software's sequel not only featured a vastly improved multiplayer experience, but it also added more ambitious levels that were far larger in design and scope than *Doom*'s and greatly rewarded exploration. Other additions included new enemies (plus the return of many favourites) and the Super Shotgun (essentially a meaty double-barrelled shotgun).

DOOM 64

RELEASED: 1997
This N64 exclusive was developed by Midway Games and is set after *Final Doom*. It features a brand-new weapon, a laser called the Unmaker, along with 32 exclusive levels and two new monsters, the Nightmare Imp and Mother Demon. A remastered version arrived in 2020.

DOOM 3

RELEASED: 2004
There was a ten-year wait for id Software's third *Doom* game so John Carmack and his team could create a story-focused game with cutting-edge technology. It's essentially a reboot of the original game, with a strong focus on horror, something which divided critics at the time of release.

» [PC] Things really crank up on *Doom*'s second episode, with enemies often attacking in large groups.

» [PC] It's easy to remember *Doom* as dark and gloomy, but it has plenty of sections where the action takes place outside.

» [PC] For all its weaponry, few things are as satisfying in *Doom* as punching a demon in its face.

» [PC] Thy Flesh Consumed was the fourth and final chapter of *The Ultimate Doom*, and it's bloody hard!

about it, he loved HR Giger's work) instead of *Doom*... but in the end, we wanted to do our own thing. That decision turned out to be a big vector-change in id's future!

How important was shareware to *Doom*'s overall success?
At the time very important, as everyone could 'try before you buy'. And *Doom* was really something at the time, so they were hooked.

When did you first start becoming aware of *Doom*'s popularity?
Beyond sales, it was the way it crept into the public zeitgeist. Not just a *Wired* cover or awards, but we went to watch a demo scene showing, and one of the demos stopped for a second and printed, full-screen, 'WE LIKE *DOOM*'. Friends were always playing it, everyone played it after work. Later, people came up to me and said, 'I failed a semester because of *Doom*,' and, 'My parents got so mad at me for playing *Doom*.' It was an answer on *Jeopardy*. If someone [isn't] into videogames, to this day, they usually know *Doom*. It's part of our culture now.

How does it feel to be part of the team of developers that created one of most influential games of all time?
It was a profound privilege to work with such amazingly talented developers. First, we worked together at night, as [we] snuck into the Gamer's Edge department at Softdisk. Then we spent virtually every waking hour together for id's first three years. We were developers, we were friends. We did amazing games together and we pioneered a genre, the first-person shooter. What designer gets to do that? It was an honour to get to define the founding concepts, the simple but essential building blocks of a genre that are still used today. *Doom* was our fifth game in that genre, and was the culmination of all we'd learned. I remember asking [John] Carmack, as it was being released, how he thought the game turned out. He said, 'Better than we thought it could.' ▶

DOOM

RELEASED: 2016
First announced in 2008 as *Doom 4*, it went through an extensive development cycle, before being restarted in 2011. id Software's second reboot is a blast to play, thanks to its fast pace, large number of weapons and its brutal Glory Kills that allow you to effortlessly rip through your opponents.

DOOM VFR

RELEASED: 2017
This companion piece to 2016's *Doom* features convincing, inventive use of virtual reality and lets you rip apart demons by teleporting into them. It's an incredibly fast-paced game, matching the ferocity and pace of the original *Doom*, but falls apart in the story department compared to the 2016 reboot.

DOOM ETERNAL

RELEASED: 2019
This *Doom* (2016) follow-up boasts more Glory Kills, wall-climbing and dash moves, plenty of new enemies and new destructible demons, along with a grappling hook. It didn't reach the same heights as the 2016 reboot but it is more than a worthy follow up to rev up if you are in the mood for more ripping and tearing.

DOOM: THE DARK AGES

RELEASING: 2025
In a welcome twist, the next iteration in the *Doom* saga is a prequel. Exploring the early trials of the Doom Slayer, who is sporting a fashionable cape and a functional shield, this upcoming title boasts creative new weaponry, like a skull shredder that fires bone shrapnel, in a dark fantasy medieval setting.

DESIGNING DOOM

JOHN ROMERO EXPLAINS WHY DOOM'S EXCELLENT LEVEL DESIGN HELPED IT STAND APART FROM ITS PEERS ON RELEASE

DESIGNER COMMENTARY

JOHN ROMERO LOOKS BACK AT HIS ICONIC FIRST STAGE

There are numerous reasons why *Doom* holds up today, from its impressive use of lighting to create atmospheric locations, to its memorable enemies and satisfying selection of weapons. Perhaps one of the best reasons why id's shooter has stood the test of time so well is due to its exceptional level design, which becomes all the more impressive when you realise that there are absolutely no sections of the game where objects like bridges and arches cross over each other. "Well, it was much easier to not have full 3D at that time," explains John Romero, who created *Doom*'s levels. "If you look at a level from the top-down you'll see if there's a surface, there is nothing above or below it. It's very clean. We were concerned with delivering the best-looking world at a good framerate on 386 33mhz PCs in 1993."

Another aspect of *Doom*'s design that works so well is the flow it offers while playing. Some sections drop jump scares on you (something that would become far more prevalent in *Doom 3*) where others offer you vicious gauntlets of enemies that need to be dispensed with before you can progress. You never really know what to expect in *Doom*'s stages, with the flipside of that approach meaning there was a lot for John to think about. "There's a lot to consider," the developer muses when we asked about what needed to be taken into account while creating *Doom*'s varied levels. "You want to have a sense of what the overall design is, then support that with some landmark architecture and interesting views to other sections. Are you hiding enemies, then surprising the player? Are you allowing the player to explore for a while before they get into combat? Or do you want to constantly dribble out enemies? There's really an unlimited amount of design ideas you can pursue with *Doom*'s limitations."

Another aspect that many forget about *Doom* is the sheer amount of exploration that is offered during play. John's level design constantly encourages the player to not only explore their surroundings in order to find missing keys and seek out additional ammo and guns, but also to look for unusual designs in the map's layout in the hope of discovering one of *Doom*'s many hidden secrets that could reward you with useful caches to help with your fight against the horde. "I think secrets are an additional fun vector to include in any game," continues John. "Those secrets can really help you out, and if you're desperate, you will absolutely press every single wall! I still put all kinds of secrets in every game I make. With my recently released *Sigil* (*Doom* levels), I made sure there were at least four secrets on every level."

Perhaps the biggest testament to *Doom*'s design is just how well the first stage still plays. It introduces you to all the techniques you'll need to use as you make your way through the game, and highlights just how well-crafted id's classic is. "E1M1 was the last level I created so I could pour all the design language developed for the game so people would be most impacted there," says John. "It probably took a couple weeks to get streamlined." It remains one of our favourite stages from the game, and we were keen to know what other maps hold a special place in John's heart. "That's tough," he says. "E1M1 is nice and simple, and the level many people remember. E1M3 had the best secrets, and was the first backtrack design in *Doom*. E1M7 was big and had lots of backtracking. I loved E2M5 because it was huge, and a challenge to live through. E2M2 was the first crate maze in a 3D game. E2M8 was scary and [had] the introduction of the Cyberdemon. It's so hard to choose! Well, I'll just pick E1M7. It has a lot in it."

"This is a hidden switch I added in v1.9 to open up [a wall] so players can access the secret area easier, and find the other secret entrance as well. It's also a favourite switch in deathmatch."

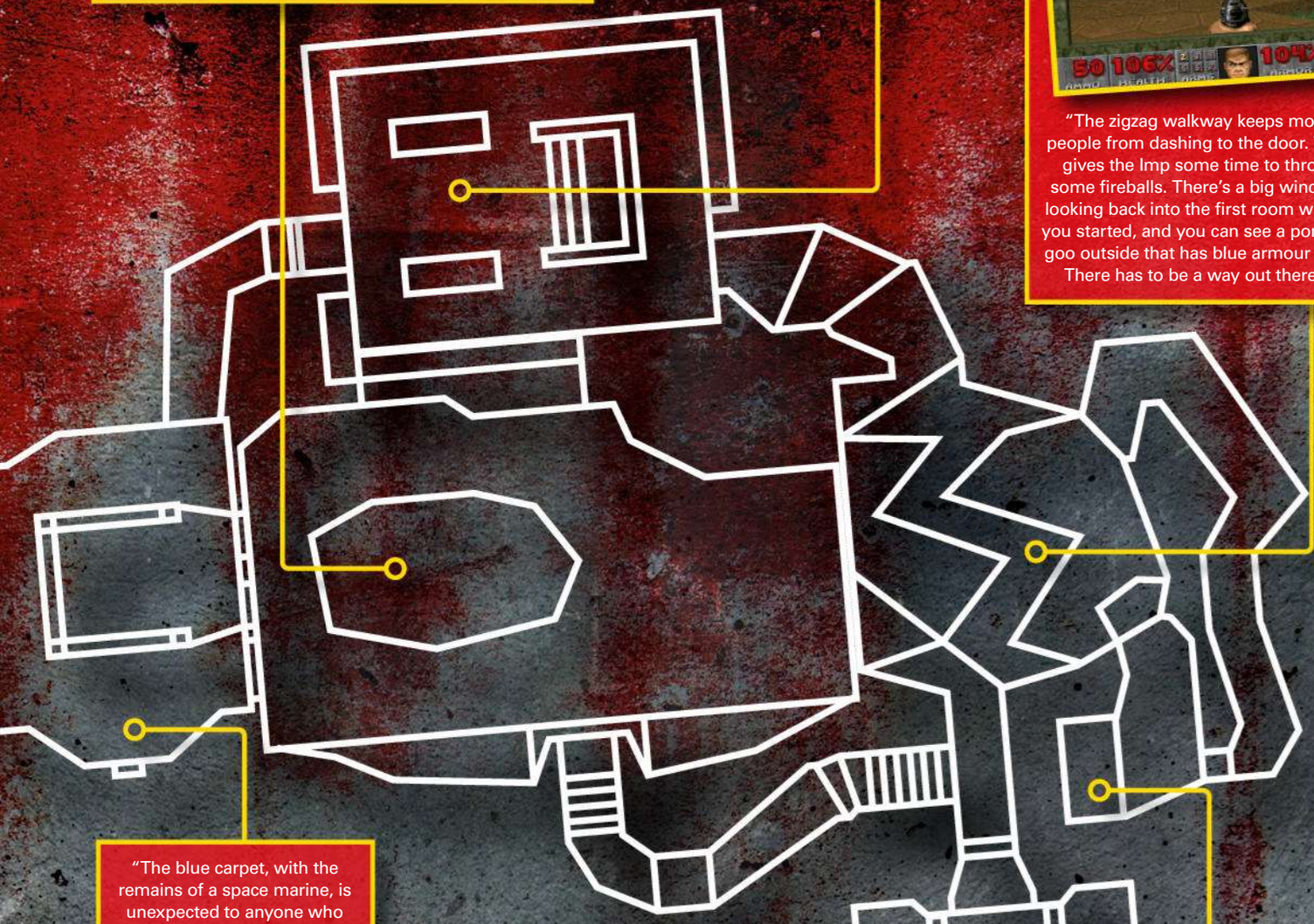
"At the top of the very first stairway in *Doom*, you find some green armour that will help you beyond the first door."

DISSECTING DOOM

"The outdoor courtyard is an important part of the level because it shows players that they can, in fact, get outside somehow, if only they would search for it. The blue armour in the pond is very powerful, and in deathmatch it's the best way to get the higher frag count. You can also get a rocket launcher and scoop up a lot of rockets out there in deathmatch. This is one of the very few secret areas in *Doom* that is accessed by two secret doors."

"This room is your second run-in with enemies. There's plenty of space to move around, so don't worry too much. [Two] guys flanking the doorway as you come in could surprise you. Look around and you'll find some health."

"The zigzag walkway keeps most people from dashing to the door. This gives the Imp some time to throw some fireballs. There's a big window looking back into the first room where you started, and you can see a pond of goo outside that has blue armour in it. There has to be a way out there."



"The blue carpet, with the remains of a space marine, is unexpected to anyone who thought *Doom* was brown and grey. To the right, you can see the mountains of Phobos, and to the left, you see a room you want to explore. This is the start of a great adventure."

"Finally, the exit. Don't be surprised if you find someone in this room on the harder difficulties! Flip the switch and move on."

"There's a shotgun and health are sitting here. It's mostly for players in deathmatch."

CLONING DOOM

BEFORE A GENRE WAS CREATED, FIRST-PERSON SHOOTERS WERE KNOWN BY THEIR MEDIA-GIVEN NAME OF 'DOOM CLONE'

» [PC] Pixel Titan's *Strafe* was released in 2017 and wears its *Doom* influences on its bloody sleeves.

» [PC] *Duke Nukem 3D* is one of the better shooters that followed in *Doom*'s wake and pushed the genre in its own distinctive way.

» [PC] Raven Software's *Heretic* uses a modified version of the *Doom* engine.

You know when a game has truly made an impact when all those that follow in its footsteps are, whether fairly or not, compared to the predecessor.

Even to this day any action RPG with a top-down viewpoint is called a '*Diablo* clone', for example. While *Doom* perhaps didn't start the first-person shooter – those laurels go to its big brother, *Wolfenstein 3D* – it was special enough to kickstart a genre thanks to its approach to technology, game design and visual flair. "Let's be clear: I think *Doom* is the greatest achievement in the game industry," highlights Scott Miller, whose own games would go on to be bundled in among the other so-called '*Doom* clones' of the time. "It was innovative on so many fronts, its BSP-based 3D engine, streamlined high-speed gameplay, built-in support for the mod community, LAN multiplayer for both deathmatch and co-op. It was the ultimate marriage of tech advancements and killer gameplay."

But Scott was actually aware of the splash that *Doom* was about to make in the industry, even ahead of the game's release. His company, Apogee Software, had published and produced *Wolfenstein 3D*, and so Scott had a close relationship with the team at id Software. "I was able to visit id's offices several times during *Doom*'s development and got to see the game at various stages," he adds. "I knew they were onto something massive." This gave Scott and Apogee an advantage that many didn't have, as well as the understanding that Apogee needed to 'bust ass' if it was going to keep up with *Doom*.

It was a sensation that many developers will have felt at the time. *Doom* was so compelling, so game-changing that to ignore what id was making possible would have been foolish. *Doom* released in December of 1993, and yet already in 1994 there were a slew of games emulating its approach, likely thanks to the early heads-up that *Wolfenstein 3D* had given developers. Some wanted to do their own thing in the same space, while others wanted to improve on what id Software had produced. "That's why we decided to focus on games with interesting characters, like Duke and Lo Wang," says Scott. "We also added many other elements to our games to stand out, like interactivity, slopes, humour, really wacky weapons and exploding walls. We knew we couldn't keep up with id when it came to technology, so we had to beat them in other areas."

NOTABLE DOOM CLONES

GREAT ALTERNATIVES YOU NEED TO EXPERIENCE

DUKE NUKEM 3D

Arguably the most notorious of *Doom* clones, 3D Realms brought a bigger personality to the *Doom* experience. This meant a recognisable and humorous character, over-the-top weaponry and a few moments very deserving of its 18 rating. Famously, the series didn't end up at the heights that started with this FPS, but back when it was released it was one of the better 'clones'.

STAR WARS: DARK FORCES

It's true that no one could overlook the inspiration that *Dark Forces* came from, but there were numerous additions that really pushed the FPS forward for the time. Greater emphasis on environmental puzzles, the ability to jump and swim, and even graphical enhancements all helped LucasArts' shooter stand on its own – though it was still tarred with the '*Doom* clone' brush.

MARATHON

Often overlooked in lieu of *Halo*, Bungie's first FPS actually goes a long way of demonstrating some of the style and capabilities of the team that went on to redefine combat. It was much more cinematic than *Doom* was and actually allowed for y-axis aiming – a genuine innovation at the time. But since it was exclusive to Mac computers, it didn't garner the audience that it definitely deserved.

It didn't matter what the subject matter or the gameplay style was, if you produced a first-person game in the years that followed *Doom*, it was branded a clone. "I thought '*Doom* clone' was idiotic and ignorant of this new FPS category," says Scott. "So I never used that term and corrected all the press who used it. Every 3D game that came out after *Doom* was called a '*Doom* clone'. The press wasn't smart enough back then to recognise that a new genre was emerging, the FPS genre."

The impact it had was phenomenal, Apogee even rebranded the company to pair up its own FPS games with a new name that demonstrated the significance of the technology: 3D Realms was the name, producing *Blood*, *Shadow Warrior* and *Duke Nukem 3D* quickly to ride the wave that *Doom* was forming. "I wanted to be coming out with the best ones as soon as possible," says Scott. "The bigger risk was not taking *Doom* on!"

Comparisons to *Doom* were inevitable: there was nothing else like it at that point, and with no language to help express how a similar game might play, the press, Usenet users and early internet pages had to draw references to the only thing they knew. *Duke Nukem* had managed to carve its own niche out of the new genre, but still it was compared to *Doom* as a clone. The shift in terminology didn't really start until 1996 and the release of *Quake*, at which point 'first-person shooter' started to enter into the industry's dictionary. By 1998 after other developers had released their own impressive FPS games, the two terms had switched in their usage and by the early Noughties the phrase '*Doom* clone' was all but forgotten.

Until now. There's no destroying the heritage of a game like *Doom*, and now that indie development has given rise to the popularity of neo-retro gaming, the term '*Doom* clone' has once again returned. Games like *Dusk*, *Strafe* or 3D Realms' own *Ion Fury* all wear the *Doom* inspiration with pride. Heck, there's even a '*Doom* clone' tag on Steam these days.

THE TERMINOLOGY OF DOOM

Many significant games come with their own unique terminologies that become widespread, but few have had the same impact as *Doom* did in how it got people talking. '*Doom* clone' is the obvious example, which was used to easily and effectively explain how a similar game played by using *Doom* as a reference point.

But then there's terms like 'WAD', an acronym of 'Where's All The Data?', which was the default format for package files used in *Doom* and became shorthand for 'mod'. 'Deathmatch' was also born from *Doom*'s pioneering multiplayer mode, as is 'frag' – meaning a point scored for killing another player – both of which are synonymous with multiplayer gaming to this day. Even the concept of 'speedrunning' started with *Doom*, the fast-paced, skill-orientated gameplay well suited to competitively beating a game as fast as possible, and it built up a strong community of speedrunning gamers around that.

ZERO TOLERANCE

There's no doubting the technical achievement behind *Doom*, but there's certainly cause to claim *Zero Tolerance* an even more impressive feat. Replicating the first-person combat on the Mega Drive is certainly worthy of praise, and while it didn't quite match the speed or quality of id's breakthrough shooter, it did at least provide *Doom*-like gameplay to an audience that perhaps wouldn't have had access to it.

HERETIC

It's perhaps hard to claim *Heretic* (and its follow-up, *Hexen*) as *Doom* clones, since the game has such close ties to id Software and John Romero, and actually runs on the same engine. Many of the weapons in the game are actually reworkings of *Doom*'s own arsenal of firepower, in fact. Even so, the occult-fuelled gameplay and novel additions to the engine still make *Heretic* a *Doom* clone worth playing.

ION FURY

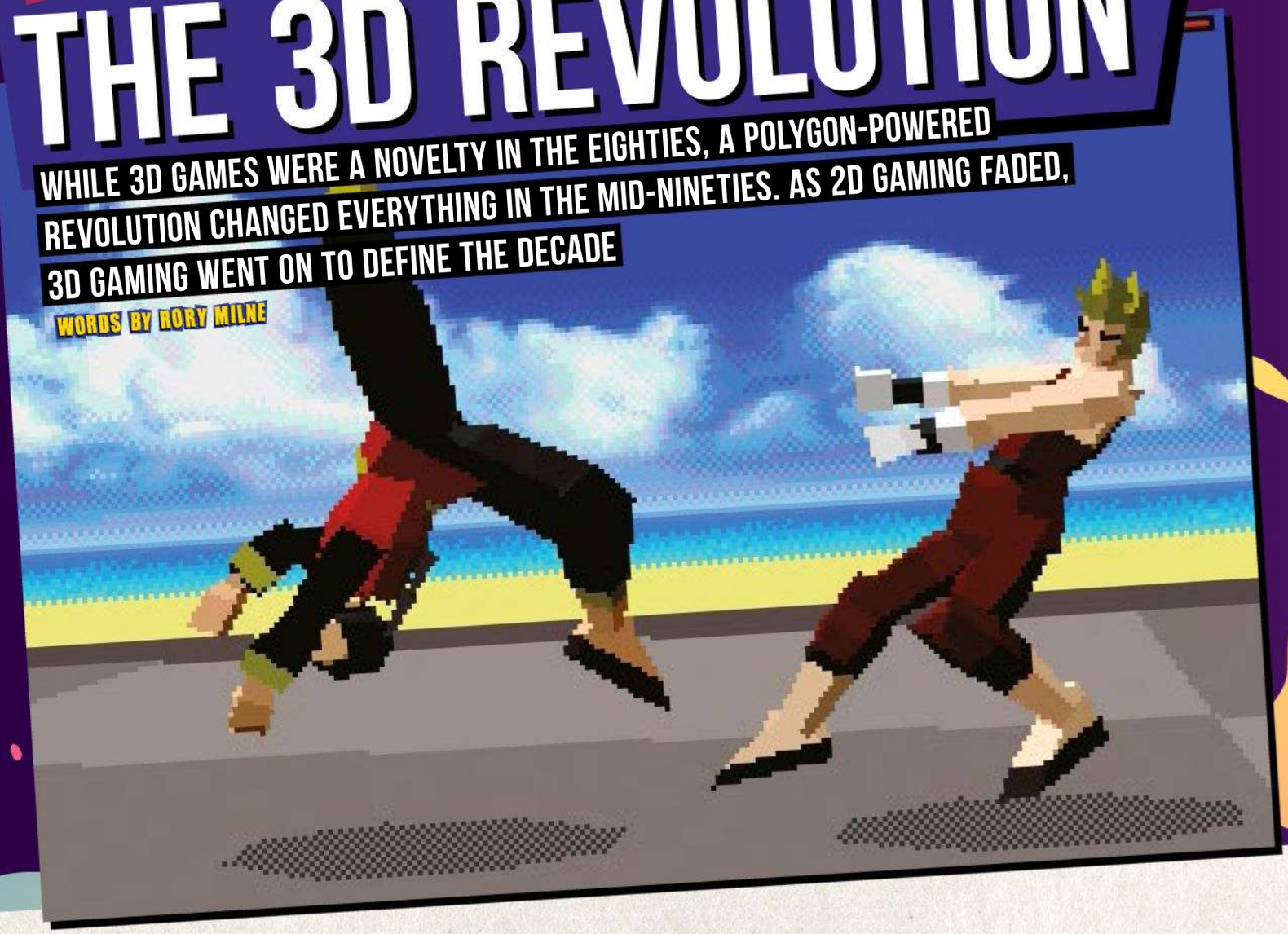
In more recent times, the revival of *Doom* clones has been brought on by a growing distaste for modern FPS games and a renewed love of the classics we used to love. One recent example of this is *Ion Fury*, 3D Realms' tribute to its own Build engine games. It is reminiscent of the fast-paced, *Duke*-style gameplay, and even uses 2D sprites for enemies. It's a modern *Doom* clone, though Scott wouldn't want us to say that…

FLASHBACK

THE 3D REVOLUTION

WHILE 3D GAMES WERE A NOVELTY IN THE EIGHTIES, A POLYGON-POWERED REVOLUTION CHANGED EVERYTHING IN THE MID-NINETIES. AS 2D GAMING FADED, 3D GAMING WENT ON TO DEFINE THE DECADE

WORDS BY RORY MILNE



Throughout the Eighties, attempts were made to develop 3D games, but these novel projects involved significant sacrifices.

As such, games like Atari's coin-op *Battlezone* and the home computer hits *3D Monster Maze*, *Elite* and *Revs* were defined by limited on-screen elements and either wireframe graphics or blocky visuals.

In the late Eighties, these restrictions were tested by the computer games *Driller* and *Zarch*, both of which featured shaded polygon graphics. The former was sluggishly slow, but the latter, despite its minimal playfield, was faster and employed 3D lighting and shadows. Then Namco and Atari's coin-op racers *Winning Run* and *Hard Drivin'* pushed the envelope further with their almost-fullscreen 3D worlds. The arcade rivals continued to develop polygonal titles into the early Nineties, while 3D home computer titles like Graftgold's shooter *Simulcra* and Geoff Crammond's *Grand Prix* impressed on less-capable hardware.

In 1992, 3D games began to carve out a niche on PCs, including a *Grand Prix* conversion, the hit FPS *Wolfenstein 3D*, the survival-horror title *Alone In The Dark* and the flight sim *Stunt Island*. In the autumn, a game appeared in the arcades that far surpassed any 3D game that had come before it. *Virtua Racing* recreated the breathtaking speed of Formula 1 racing using polygons in glorious fullscreen. Sega's coin-op could also handle three times as many polygons as any previous arcade title, which allowed its cars to send blades of grass into the air when they clipped verges and send digital sparks flying on contact.

By the following year, it seemed like developers were using *Virtua Racing* as a benchmark for their own 3D projects. Namco upped the ante by using Gouraud-shaded visuals to add realism to its arcade racing game *Ridge Racer;* meanwhile, Nintendo put a 3D accelerator chip into a SNES cartridge to make its fullscreen shaded polygon shooter *Star Fox* possible. For its part, Sega released the first polygon-driven fighting game, *Virtua Fighter*, which did for beat-'em-ups what *Virtua Racing* had done for racers. With the release of 3D polygon-driven gaming, it appeared the days of 2D sprites were numbered.

» [PC] Early forays into the third dimension, such as *Wolfenstein 3D*, gave us a sample of the impressive innovations to come.

1994 saw Sega bring *Virtua Racer* to the Mega Drive by putting a 3D chip in a cartridge. It later released the polygon-enabling, yet poorly judged, Mega Drive add-on, the 32X, and in Japan, it debuted its more powerful console, the Saturn, with *Virtua Fighter* as a launch title. Sony then wowed Japanese console gamers with the PlayStation and its launch title, *Ridge Racer.* In the arcades, Sega released *Virtua Fighter 2* and its remarkable racer *Daytona USA*, while Namco countered with its 3D brawler *Tekken*. Rare made waves with the 2D *Donkey Kong Country* featuring sprites based on 3D rendered models.

Following its unassailable ascent in 1994, 3D gaming became mainstream in 1995. The Western launches of the Saturn and the PlayStation ensured

© Getty; Adobe Stock

» [PlayStation] Arcades were usually the place to go for fast 3D action, but the PlayStation changed all of that.

POLYGON PERFECTION

NINETIES 3D GAMES YOU MUST PLAY

STAR FOX

Thanks to the Super FX chip housed in its cartridge, *Star Fox* brought 3D polygonal gaming to the humble 16-bit SNES. Nintendo's sci-fi shooter gives you three routes to its final challenge with increasingly tough levels and boss showdowns. As well as power-ups, you also have three wingmen to help you out on missions, providing you keep them safe from enemy fire.

WIPEOUT

The game that made the PlayStation cool, *WipEout* is worth experiencing just for its futuristic stylings and pumping techno soundtrack. Learning to race its antigravity craft takes some effort, but it's a skill worth mastering. Equally important to learn are the colour codes for WipEout's invaluable speed boost, shield and weapon power-ups.

TOMB RAIDER

As much as Core's globe-trotting adventure was popular for its devious puzzles, immersive atmosphere and intuitive camera, credit for *Tomb Raider*'s success should be given to the inclusion of its era-defining protagonist, Lara Croft. *Tomb Raider* also deserves praise for the implementation of verticality in its 3D platforming challenges.

QUAKE

The first fully 3D FPS from id Software, *Quake* also helped to popularise online multiplayer deathmatches. Taking its cue from the works of HP Lovecraft and featuring a haunting score by Nine Inch Nails, *Quake*'s nightmarish world is an ode to gothic horror. Meticulous exploration and a keen aim in firefights are key to surviving id's intense shooter.

GOLDENEYE 007

Rare's N64 hit was proof that sophisticated first-person shooters could successfully make the transition from PCs with a mouse and a keyboard for controls to consoles with an analogue controller. *GoldenEye 007* impresses with its stealth elements, single-player objective-based missions and, of course, those infamous split-screen multiplayer deathmatches.

» [N64] Advancements in technology allowed Nintendo to create the *Zelda* adventure that creator Shigeru Miyamoto had always envisioned

» [PlayStation] 3D merged with sublime storytelling to create epic adventures that put videogames in the same arena as cinema, television and novels.

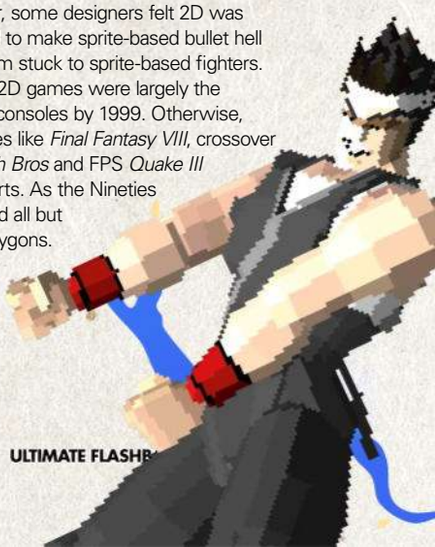
this, and it would have happened earlier if Nintendo's 3D-capable console, the N64, hadn't been delayed. On the arcade front, Namco brought out *Tekken 2* and its lightgun classic *Time Crisis* – both appeared a year later on the PlayStation. In 1995, the successful 3D combat racers *Destruction Derby* and *WipEout* arrived on Sony's console, while the SNES received the popular platformers *Yoshi's Island* and *Diddy's Kong Quest*, proving traditional 2D games still had their place.

Three events helped gaming become 3D-focused in 1996. Developers embraced the PlayStation after it sold impressively in late 1995, and produced 3D hits like the survival-horror title *Resident Evil*, the action-adventure *Tomb Raider* and the irresistible platformer *Crash Bandicoot*. Nintendo released the N64 in Japan and the US, showing the world how to do 3D platformers properly with *Super Mario 64*. Then, 3dfx introduced the first 3D accelerator card for PCs, which turbocharged the potential for polygon-powered PC games. In 1997, the PlayStation 3D racer *Gran Turismo* broke sales records, Rare graced the N64 with its FPS *GoldenEye 007* and *Final Fantasy VII* redefined the JRPG with an unforgettable 3D world.

In the late Nineties, developers wondered if different genres could work in a 3D space. The cinematic action title *Metal Gear Solid* used 3D but primarily employed an overhead perspective like its 2D predecessors for gameplay sequences. *Ocarina Of Time* had its 3D camera switch from following its lead character to his enemies when he was targeting them. The 3D brawler *SoulCalibur* was developed to facilitate eight-directional movement. However, some designers felt 2D was best; Cave continued to make sprite-based bullet hell shooters, and Capcom stuck to sprite-based fighters.

Exceptions aside, 2D games were largely the reserve of handheld consoles by 1999. Otherwise, 3D-driven experiences like *Final Fantasy VIII*, crossover brawler *Super Smash Bros* and FPS *Quake III* topped the sales charts. As the Nineties ended, 2D sprites had all but been replaced by polygons. 3D gaming was now the expectation. ✱

» [PlayStation] *Crash Bandicoot* cemented the PlayStation's reputation for cutting-edge 3D games that were more than just a gimmick.



Sega Saturn

» **MANUFACTURER:** Sega » **YEAR:** 1994 » **COST:** £399 (UK launch), £100+ (UK today - unboxed), £140+ (UK today - boxed)

Sega had the pick of the pack when following up the Mega Drive – the company was offered both the 3DO technology and the Silicon Graphics Inc architecture that powered the Nintendo 64, as well as the chance to collaborate with Sony. Instead, the company went down its own path, placing its faith in its own hardware engineers.

The result was the Saturn, a complex piece of hardware featuring two processors, two video chips and a custom sound chip. While this unusual arrangement delivered a high level of theoretical performance, it came with real downsides as the hardware was expensive, and programmers struggled to grasp its idiosyncrasies.

Despite some excellent games, the Saturn's drawbacks kept it from repeating the success of its predecessor on the international stage. However, it became a popular machine in Japan and gained a hardcore following amongst import gamers as a result, becoming well-known for its excellent conversions of 2D arcade games, particularly shoot-'em-ups and fighting games, as well as original RPGs. So while the Saturn wasn't the success Sega hoped for, it did find an audience that appreciated its strengths – and the lessons it taught would prove invaluable in designing the Dreamcast.

Hardware fact

■ The Saturn was the only console of its generation to come with built-in memory for saving games. However, it depends on a CR2032 battery, so it's worth getting a memory cartridge anyway.

RAM:	2MB MAIN, 1MB VIDEO, 512KB AUDIO
PROCESSOR:	DUAL HITACHI SH2 (28.6MHZ EACH)
OPERATING SYSTEM:	SEGA SATURN BIOS
FORMAT:	CD-ROM
TOTAL SOLD:	9.5 MILLION

ESSENTIAL GAME NiGHTS Into Dreams

As an original 3D game, *NiGHTS* might not appear to embody the things that endear the Saturn to its fans. However, look beneath the surface of Sonic Team's first venture away from its mascot and you'll see Sega's arcade design at work, as *NiGHTS* is a hardcore score attack game at heart. What's more, Sonic Team gave the Saturn hardware an excellent workout. Each stage mixes 2D sprites and polygonal objects to great effect, and amazing graphical effects, such as reflections and real-time environment warping, put other games shame.

» [PC] Puzzles were taxing, but only as they required you to search every nook and cranny – usually for three MacGuffins.

TOMB RAIDER 101

■ The concept behind the original *Tomb Raider* was simple – a game of exploration, puzzle-solving and combat which starred a female version of Indiana Jones. One of the first major 3D action-adventure games, it set the template for the genre. The *Tomb Raider* game series has been rebooted twice and it now under the custodianship of Crystal Dynamics.

TOMB RAIDER

NIGH ON 30 YEARS INTO HER CAREER, LARA CROFT SHOWS NO SIGNS OF SLOWING DOWN. IAN DRANSFIELD LOOKS BACK AT THE GAME THAT STARTED IT ALL – THE ORIGINAL, NON-REBOOTED, VERSION THAT FEATURES A TYRANNOSAURUS

It's hard to imagine it but *Tomb Raider* wasn't always a phenomenon. When it debuted in October of 1996, landing first on the Sega Saturn and PlayStation and PC a month after, it was well-received… and that's about it. Fast-forward a few decades and here we are in a world where everybody knows Lara Croft, where gamers and non-gamers alike have played at least one *Tomb Raider* game, or have at least seen one of the movies.

So how do you go about creating an icon? According to Adrian Smith, former operations and development director at Core Design, you don't. You just cobble together a few ideas. "Interestingly enough, the original idea came from a couple of sketches that Toby [Gard] had and a couple of conversations we had," he explains.

"I can't remember the exact time, but my brother [Jeremy Heath-Smith, Core co-founder] and I had just come back from the Tokyo Game Show where we'd seen all the wonderful new titles about to be released, and it was very much a change in focus with a lot more 3D-style games because of the new hardware launching… the original idea for *Tomb Raider* came from there."

All the Indiana Joneses, adventuring explorers like Tintin, and contemporary archaeological legends definitely contributed to the final product, but the original spark of inspiration for *Tomb Raider* was a simple one. "It was as simple as saying, 'Wouldn't it be great to do something shrouded in mystery, Egypt and the temples, tombs…' That's how it started," Adrian recalls.

From the ideas jotted down and discussed came a concrete plan for a game – a plan that didn't waver much from day one to completion, as Adrian tells us. "The key bits of the game actually fell into place very quickly – the design, which Toby wrote initially, was a 12-page document." One key element of this document, of course, is the protagonist. "We knew this was not a character that needed to be a muscle-bound, gun-toting superhero," he explains. "We really didn't want that character, it came very easily to us to recognise that this character would be somebody we wanted the player to associate with and we saw that through all its iterations."

In fact, the character who became Lara Croft didn't actually have guns until about halfway through

» [PC] It was never cutscene-heavy, but *Tomb Raider* did every now and then veer into expository storytelling.

» [PC] While quaint by modern standards, *Tomb Raider*'s distinctive style does still stand out.

© Getty

» [PC] The platforming demanded precision and was often unforgiving if you happened to misjudge your leap.

» [PC] Few others in the history of gaming ever managed to create a sheer sense of vertigo like *Tomb Raider.*

CORE

IN THE KNOW

» **PUBLISHER:** Eidos Interactive

» **DEVELOPER:** Core Design

» **RELEASED:** 1996

» **PLATFORM:** Saturn, PlayStation, PC

development – the team was that adamant it needed to get the exploration and puzzle-solving right first. "It really changed the focus," Adrian remembers. "As soon as you give someone guns, they turn into this Arnold Schwarzenegger-style character, and that wasn't what we wanted, we knew that very early on."

Eventually, the plan changed; with the groundwork laid as a non-Arnie simulator, gunplay in *Tomb Raider* was presented as an additional mechanic, rather than the focus. "We decided we needed to add another element," Adrian says. "So bats and wolves came along – but then we had to figure out what Lara would do about them. Hence, we gave her guns. I think it enhanced the game, it added a level to Lara that allowed us to be more acrobatic. That spawned the running and gunning at the same time, then the twisting in the air, and from that the swallow dive came."

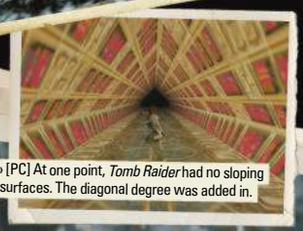
This ability to be so nimble and change focus and ideas so quickly and efficiently wasn't by accident. Core's team was small, and its use of non-standard building tools made the process of revisions faster and easier than it had been previously. Nathan McCree worked as the composer on the original game, with some responsibility for producing the FMV and cutscene scripts. He explains how the team size at Core affected development: "There was a group of about six to eight people, expanding to about 12 to 15 with people who were brought in at various stages throughout the production. We all worked close to each other so people didn't really email each other, they just talked. It was a real melting pot of ideas."

This close proximity enabled an organic expansion to *Tomb Raider*, with ideas openly floated and discussed between junior and senior members of the team alike. "We were almost like a family, often going out together and partying," Nathan remembers. Many of us are still in contact and we get together when we can."

Nathan admits that it wasn't perfect working on a smaller production, as *Tomb Raider* was back then, with the smaller scale introducing its own problems. One of them being as simple as not having the time to get back down to London. "I remember we went over to London to record the voice artists in some sound studio," Nathan says. "Some days later, back in Derby when I was editing all the audio, I discovered we had forgotten to record one of the characters in the script, and with only days to go before our final submission to the publisher, there wasn't enough time to book another recording session. It became clear that I would have to do it myself. So I ended up playing the part of the medieval monk in the lift FMV sequence which precedes the level St Francis' Folly."

But, generally speaking, the atmosphere within and size of *Tomb Raider*'s development team was a huge boon to the production. "I think levels of creativity are hard to maintain in a large team," Adrian explains. "It's an obvious thing to say, but when you're a small team and everyone is living and breathing [the game], then it does keep focus

» [PC] Your main antagonist here, after she's turned into a winged mutant beast.



» [PC] At one point, *Tomb Raider* had no sloping surfaces. The diagonal degree was added in.

» [PC] The symbol on health packs was asked to be removed by a 'certain organisation sporting the same logo'.

» Although it launched on Sega's Saturn, *Tomb Raider*'s success was on PlayStation.

ENDANGERED SPECIES

Mythical or real – Lara will kill it

BATS

■ Squeaking, irritating and seemingly harmless, don't underestimate a bat's ability to put you off a jump, causing you to plummet screaming to your death.

BEARS

■ Moving silently, bears pack a hell of a punch when they get in close. Lara's agility is her best bet here – that or just hiding in pools until the bear gets bored...

LIONS

■ Another beastie that can do a lot of damage if it gets in close, the best thing to do is flip around like a madwoman in order to confuse and frighten the king of the jungle. Then shoot it.

CENTAURS

■ Obviously, there are centaurs. Sigh. These mythical gits lob painful exploding fireballs at Lara, meaning they should be avoided at all costs. Just run away, if you can.

CLONE

■ A skinless clone of Lara that mimics your every move – oh, and any damage you inflict on it is reflected back on you. Hmm, if only there were some handy trapdoor into a lava pit nearby...

MUTANT (GIANT, NO LEGS)

■ This...thing might not have legs, but it more than makes up for it by looking terrifying and being able to kill you quickly.

GORILLAS

■ We know them to be distant relatives of ours, and intelligent, but it seems Lara doesn't care and wishes nothing but death on our cousins. Hmm.

MUMMIFIED MUTANTS

■ Why the Egyptians would be mummifying these monstrosities we do not know. They explode, because why not?

MUTANTS (ALL FOURS)

■ Some mutants never developed the ability to walk upright, instead sticking to all fours and they're generally irritating.

RATS

■ What game would be complete without a smattering of vermin. *Tomb Raider*'s rats are an irritation, nothing more. Like bats, but with less flying.

PEOPLE

■ Of course, the most dangerous animal in Lara's way is other people. These antagonists are dangerous because they can actually shoot back at Lara.

FLYING MUTANTS

■ What's worse than a mutant? A flying mutant. These monsters aren't too difficult to deal with, but if you're not paying attention they can cause some pain.

RAPTORS

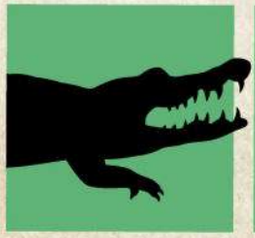
■ On a scale of 'one' to 'unexpected', velociraptors turning up quite early on in *Tomb Raider* ranks as 'unexpected'. Then its larger friend appears soon after...

MUTANTS (BIPEDAL)

■ Some skinless mutants *did* figure out how to walk upright, but instead of being happy about it, we are just unnerved.

WOLVES

■ A wolf is little problem for Lara. Unfortunately, wolves operate in packs, and six-on-one is the kind of odds that causes Ms Croft problems. Dodge, roll and dive a lot.



CROCODILES

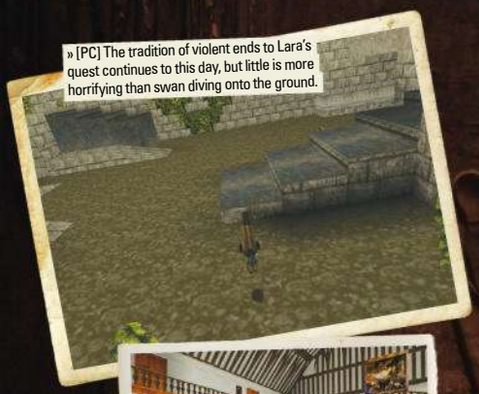
■ These green berks aren't difficult to deal with on land, but the problem is you often encounter them while going for a dip. Get out, dry off, make some new luggage.

TYRANNOSAURUS REX

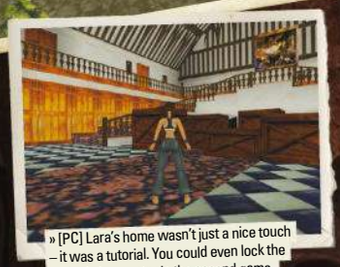
■ *Tomb Raider*'s most famous enemy comes early on in the game and is easy to defeat. If you hide in the crevice, it can't get to you. No wonder its extinct.

SUPERNATURAL ENCOUNTERS

© Betty



» [PC] The tradition of violent ends to Lara's quest continues to this day, but little is more horrifying than swan diving onto the ground.

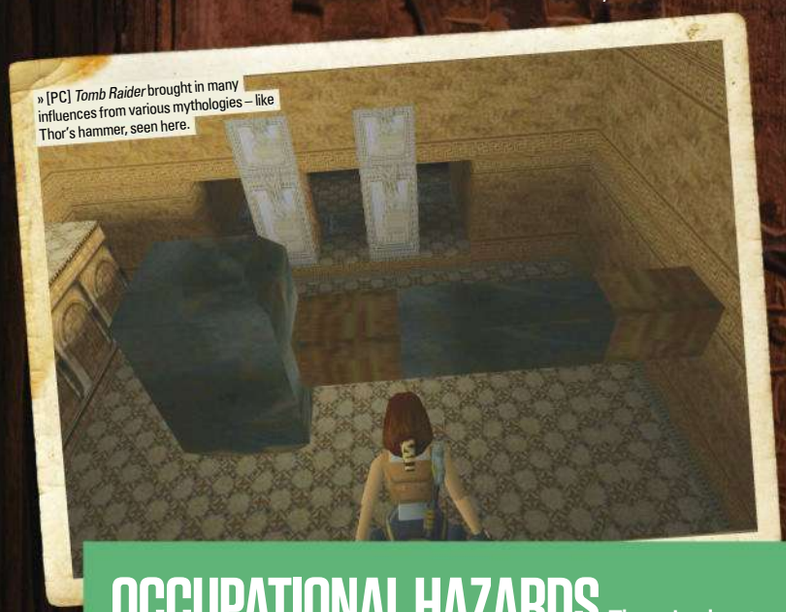


» [PC] Lara's home wasn't just a nice touch – it was a tutorial. You could even lock the butler in her pantry in the second game.

and motivation up. I'd say everyone in the team was a key stakeholder in the direction that the game took."

Of course, working so closely – literally and figuratively – with others brought its own set of problems, and both Adrian and Nathan highlight the sometimes 'heated' discussions that would be had over the smallest of points – like how the camera would operate on Lara entering a room, or the fact the game originally had no slopes in it whatsoever. However, both maintained that this open, frank and agile form of development was one of *Tomb Raider*'s biggest boons.

Said agility came from a toolbox the team created internally to help speed up production of new levels and in-game mechanics – something that could be modified quickly and tested or reviewed almost as soon as it was implemented. "I think that was one of the key elements of its success," Adrian says. "The ability to, across the team, be able to play it, review it and change it very easily."



» [PC] *Tomb Raider* brought in many influences from various mythologies – like Thor's hammer, seen here.

While discussions raised the temperature in the small Derby office, there wasn't much in the way of disagreement internally. In fact, the only major point of contention was one raised by the publisher, Eidos, which tried to convince the team at Core to steer things away from a female protagonist.

"It said things like, 'Don't do a game with a female character – at least have a male character in there so the player has a choice,'" Adrian remembers. "Many of those decisions were openly discussed and the team stood fast on them, and it was quite right to do so. *Tomb Raider* would have been quite a different game if the player had a choice between a man or woman character. It was asked for, and we said, 'No, it's the core of what this game is about – it's about this character.'"

That character, Lara Croft, became an icon – featuring on the cover of magazines, going 'on tour' with U2, and having a couple of films made of her adventures. But initially, she was focused on by an immature gaming press and fan base devoted to the size of her breasts.

Those polygonal objects jutting out of her chest were the focus of *way* too much attention back in the mid-Nineties, and it's something Adrian tells us he found amusing. "She was a cartoon character to us," he laughs. "It's no more than like on *Tom & Jerry* when Tom gets his foot hit by a hammer and it swells to ten times the size. The technology didn't allow us to make her visually as we wanted, so it was more of a way of hiking certain things so it would give her some shape – it was that simple."

As the attention on Lara grew, more people were drawn to actually play *Tomb Raider*. In it, they were welcomed by a unique proposition: a game that didn't offer much sympathy, and one that would just as often reward exploration as it would punish it. One minute you were discovering a hidden ammo pouch and health pack behind an ancient statue of a cat, the next you were being chased by a bunch of velociraptors into the path of a tyrannosaurus rex.

Everyone remembers the first time they found the giant hand in Palace Midas – the temptation to climb on it being too great, only to be instantly met by Lara's death as she turned to gold. Speaking of death, this was another key element to the game – something that punished the player but offered some level of gratification as your on-screen avatar burned, suffocated or plummeted to her demise. It sounds wrong, but if you find someone who played *Tomb Raider* and *didn't* dive off a cliff onto solid ground, you've found a liar.

Adrian's favourite moments of *Tomb Raider*, though, come in a different form – those of a man on the other side of the fence. "It got updated, but originally there were three secrets on each level with a total of 100 in the game," he explains, "We started to get phone calls from people while we were working on the second

OCCUPATIONAL HAZARDS The misadventures of Lara Croft

THE SWORD OF DAMOCLES

■ What's that shadow on the floor for? Oh, it's just a gargantuan sword hanging above you, ready to plummet down on your head. And remember: in the Greek tale it was just the one sword. In *Tomb Raider*, it's about a dozen.

DROWNING

■ Most of the time, you're panicking as you try desperately to get Lara up and out of the water, back into the welcoming lung-filling embrace of breathable air. If you don't make it, you feel truly awful – even years later, it's still a seriously uncomfortable sight to behold.

IMPALEMENT

■ It's one thing to fall way too far and snap poor Lara's neck, as we all did a million times in *Tomb Raider*, but there's something that much more shocking about her short, ever more violent plummets onto the beds of spikes left around by dozens of mad ancient bastards.

LAVA

■ Why is that bit of floor red? Oh right because it's intensely hot molten rock and now Lara's on fire. And dead. Just when you think the falls and spikes and animals are as bad as it can get, half of the floors you encounter in the latter parts of *Tomb Raider* become deadly.

THE MIDAS TOUCH

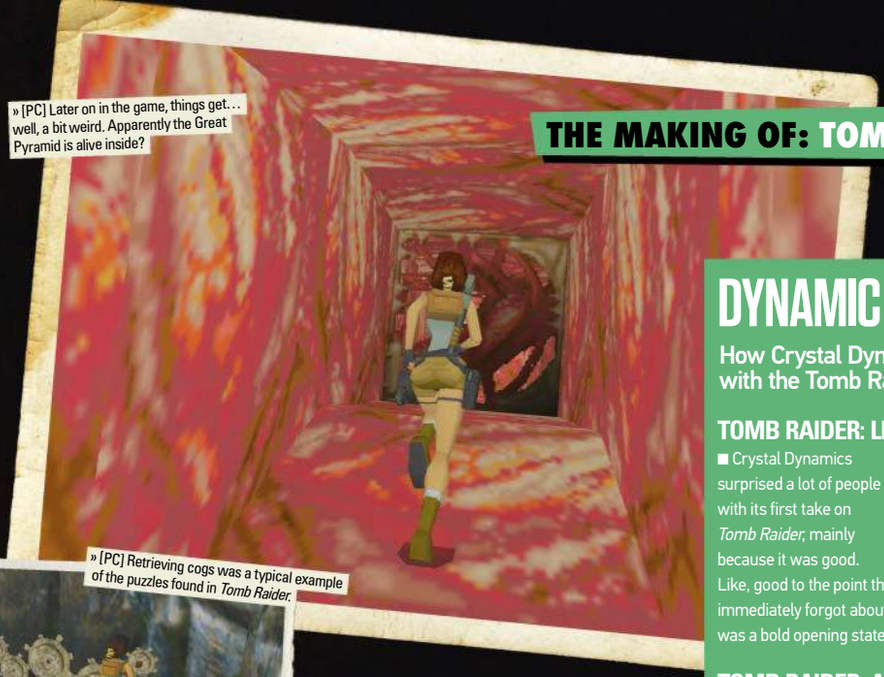
■ One of the greatest – and cruellest – surprises in any game, Core introduced the hand of Midas to tempt players to climb on it. What happened when you, inevitably, did? Why, the king's touch did what it did best: turned you to gold. Cold, hard, *dead* gold.

DEVELOPER HIGHLIGHTS

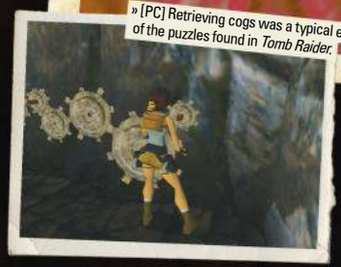
CHUCK ROCK
SYSTEM: ATARI ST, AMIGA
YEAR: 1991

FIRESTORM: THUNDERHAWK 2 (PICTURED)
SYSTEM: PC, PLAYSTATION
YEAR: 1995

PROJECT EDEN
SYSTEM: PC, PS2
YEAR: 2001



» [PC] Later on in the game, things get… well, a bit weird. Apparently the Great Pyramid is alive inside?



» [PC] Retrieving cogs was a typical example of the puzzles found in *Tomb Raider*.

game, four in the morning in tears, saying, 'I'm playing the game, I've got 99 secrets, please tell me where the last one is, I can't get 100!'

"We discovered – and we did chuckle – the programmers had done the counter for the secrets, but it was never made to cater for three digits, so even though people were finding all 100 secrets, the counter only went to 99. These poor people… we told them, 'Just keep playing, you'll find it…' So it was a change that we had to make quickly, but I do remember we all [laughed], it was something we all missed."

While there was light relief, there were things about working on *Tomb Raider* that Adrian wasn't so fond of. "All the nights we burned on it. It was hard work," he laments. But at the same time, he acknowledges the hard work paid off. "It was a labour of love," he says. "People got protective and passionate about it, and that brought quite a few arguments and raised voices. But overall, finishing it was fantastic."

It wasn't long after completing development and releasing *Tomb Raider* that the phenomenon began to take off. It's easy to forget that, in 1996, this was a new type of game – and nothing before had starred such a unique lead character. The hype train got up to full speed and the legend of Lara and her tomb-raiding adventures was underway.

Nathan explains how the team was taken somewhat by surprise when *Tomb Raider* – and Lara's star began to shine so brightly. "I don't think any of us really knew how famous it would become. It's not something that any of the team thought about. *Tomb Raider*, for me, was just another game in a long list of games that I worked on. It wasn't until it hit the charts and we saw the reviews that we knew we had something special."

Adrian echoes this surprise, though his experience of realising *Tomb Raider* might become a monster came from marketing meetings with publishers. "I remember sitting in a room with all the sales and distribution teams and they were banding these figures around and we'd never predicted this game would do millions. That's when the fear really hit! I thought, 'Christ, we'll probably have to finish this now…'"

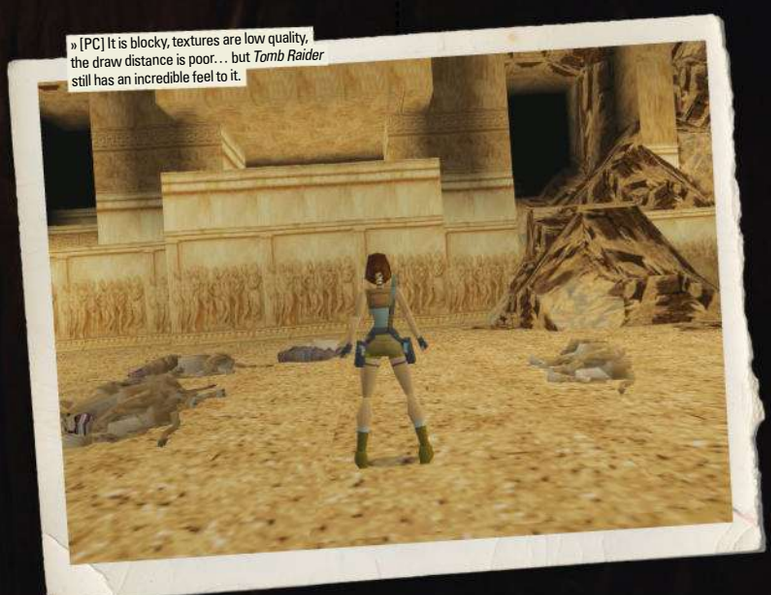
As her star grew, Lara became more of the focus, overshadowing the *Tomb Raider* game that was meant to be what we were all talking about. It didn't bother the team at Core, however, and in fact, the studio started to have a bit of fun with the increased attention their creation was getting. "Tongue-in-cheek, we did many things," Adrian laughs. "I remember as the level of interest began to rise, we had questions like, 'When's her birthday?' We just flippantly said, 'Well, it's 14 February.' Things that sprang to mind. These things stuck and got woven into Lara's fabric and really became part of her. 'Where did she go to school?' Well, we sent her to an all-boys school – shows what we knew."

Sequels inevitably followed, even though the original plan was for one game and no more. Teams changed and were moved to try and keep the creativity flowing, but ultimately the spark dimmed. Lara's appeal began to fade. After the disastrous release of *Tomb Raider: Angel Of Darkness*, Core Design was stripped of its own creation, with Lara and her adventures passed to the US-based Crystal Dynamics for its 2006 release of *Tomb Raider: Legend*. The title was apt, and the rebirth of a true gaming superstar began in earnest – but the writing was on the wall for Core.

It was a bittersweet parting, but one neither Adrian nor Nathan has hard feelings about. "I really enjoyed it," Nathan smiles. "Of course, I loved writing the music but also working with the scriptwriter and voice artists and producing the video sequences. I can't think of a better job to do."

Adrian's pride is also palpable – this was something that became huge, from a small British team, crafted from an original idea. "I'm hugely proud of it," he said. "I'm sure all the team that worked on it is proud, and they should be as well.

"We created something that has stood the test of time. I don't think we should underestimate that, and I don't think you can be anything else other than proud. You can only look back on it very positively. It was a hell of an experience one that I'm pleased I was part of."



» [PC] It is blocky, textures are low quality, the draw distance is poor… but *Tomb Raider* still has an incredible feel to it.

DYNAMIC SHIFT

How Crystal Dynamics fared with the Tomb Raider series

TOMB RAIDER: LEGEND 2006

■ Crystal Dynamics surprised a lot of people with its first take on *Tomb Raider*, mainly because it was good. Like, good to the point that a lot of people immediately forgot about Core Design. *Legend* was a bold opening statement that paid off.

TOMB RAIDER: ANNIVERSARY 2007

■ A remake of the 1996 original, *Anniversary* was both a tenth birthday present for *Tomb Raider* and a rather bloody good game in its own right. Not a re-skin but a full rebirth, this was a fine game to complement the original, sitting proudly alongside it.

TOMB RAIDER: UNDERWORLD 2008

■ Probably the least memorable of Crystal Dynamics' *Tomb Raider* output, *Underworld* wasn't bad in the slightest – it was just a bit dull. It showed that CD's refined formula, its take on the original *Tomb Raider*, needed freshening up in some way.

TOMB RAIDER 2013

■ And so Crystal Dynamics did indeed reboot Lara's adventures, giving us an origins story for Ms Croft and an adventure that took a fair few cues from the likes of *Uncharted*, *Hunger Games* and *Far Cry* and others, essentially imitating its imitators.

RISE OF THE TOMB RAIDER 2015

■ CD improved on the elements it established with the reboot's follow-up, and catching up with Lara a year after her 2013 'adventure' sees her afflicted with PTSD as she's plunged into another caper. *Rise* fared well with critics and fans alike.

SHADOW OF THE TOMB RAIDER 2018

■ The finale to the 'Survivor' trilogy felt old hat by the time it arrived, despite iterating on the modern formula. But at this point, it was clear that Lara couldn't escape *Uncharted*'s, ahem, shadow.

© Getty

PlayStation

» **MANUFACTURER:** Sony » **YEAR:** 1994 » **COST:** £299 (launch), £15+ (today, unboxed), £60+ (boxed)

They say that practice makes perfect, but sometimes you just get things right at the first attempt – and that's exactly what Sony did with the original PlayStation. Where previous 32-bit consoles had failed to wrest control of the console market from Sega and Nintendo, Sony's machine was competitive in every regard. It was cheaper than Sega's Saturn, as well as easier to develop 3D games for. It was out sooner than the Nintendo 64, and its CD releases were cheaper than ROM cartridges. Plus, it had high-quality games which drew players in, from Namco arcade conversions to original properties like *WipEout* and *Twisted Metal*. Over time, cinematic experiences like *Resident Evil, Final Fantasy VII* and *Metal Gear Solid* would permanently transform players' expectations of videogames.

Early PlayStation units were plagued with disc reading problems. The laser assembly in the CD-ROM drive was prone to becoming misaligned, due to plastic damage caused by mechanical wear and overheating. Tales of users turning the machine upside down to remedy the issue were common. Other problems included disintegrating disc spindles. Over time, the console's design was revised to fix these errors and remove unused connection ports, and in 2000 the whole machine was miniaturised as the PSone.

ESSENTIAL GAME

Ridge Racer

Think back to a time before you generated all of your amazing PlayStation memories, and try to recall the reason you wanted one in the first place – there's a good chance you'll think of *Ridge Racer*. Here was a state-of-the-art coin-op racing game that cost thousands of pounds, squeezed and prodded to fit a machine that was much smaller and more affordable, and thus less likely to anger your partner when it turned up in the living room. Namco's conversion is a loud, colourful thrill ride that typifies the Nineties gaming environment the PlayStation was born into.

PlayStation fact

■ The PlayStation was the first ever games console to ship 100 million units and remains in the top ten bestselling platforms of all time, with the PlayStation 2, PlayStation 3 and PlayStation 4.

RAM: 2MB MAIN, 1MB VIDEO, 512KB AUDIO
PROCESSOR: MIPS R3000A-COMPATIBLE 32-BIT CPU (33.8688 MHZ)
AUDIO: 16-BIT SONY SPU (24 CHANNEL ADPCM/MIDI)
OPERATING SYSTEM: 512KB PLAYSTATION BIOS ROM
MEDIA: CD-ROM (650MB CAPACITY, 2X SPEED)
GRAPHICS: GEOMETRY TRANSFORMATION ENGINE (180,000 TEXTURED POLYGONS PER SECOND)

FINAL FANTASY VII

In the mid-Nineties, Square's flagship franchise abandoned Nintendo's hardware and embraced the PlayStation, a move that would lead to Final Fantasy VII, an ambitious, refined and enormously influential RPG. Director Yoshinori Kitase and art director Yusuke Naora discuss the creation of this masterpiece with us in unprecedented depth. Steven Spielberg's Jaws fits into it somewhere, as Samuel Roberts discovers...

Without hyperbole, *Final Fantasy VII* is the RPG that changed the genre. Opening the floodgates globally to Japan's distinct brand of role-playing and popularising the JRPG genre, the 14-million-plus-selling game was, for many players, their introduction to the potential of interactive storytelling and the first videogame narrative to leave a mark on them. It's also divisive, anecdotally referred to as the most returned game of all time and often criticised by Western RPG veterans – yet such cynicism can't mask the impact it had upon release in 1997. Along with *Gran Turismo*, *Final Fantasy VII* shifted millions of PlayStation consoles by demonstrating the machine's capabilities, captivating gamers with a fictional universe of unrestrained scope and style that would govern an entire corner of the industry. Back when the game was being created, Square (today known as Square Enix) was a company in transition, and the influx of talent that brought *Final Fantasy VII* into being, as well as a development culture that fostered creativity, was ultimately responsible for this deservedly celebrated RPG.

At the 1995 SIGGRAPH computer graphics convention in Los Angeles, Square presented an interactive demo to the world that showcased its *Final Fantasy* property in unprecedented fashion. This project depicted three characters from

Final Fantasy VI fighting a Golem enemy in full 3D, a jaw-dropping contrast to the sprite-based 2D roots of the game, complete with visual effects and cinematic in-battle camera angles that implied a future beyond the static staging of the series' stories up until that point. When you look at the tech demo now, you can absolutely see the founding technical conceit of *Final Fantasy VII* embedded within it. Square saw that *Final Fantasy* could be so much more on a platform that allowed the company to experiment with such high-end technical ideas.

The SIGGRAPH project would form the 'seed', as producer and creator Hironobu Sakaguchi dubbed it on a promotional video for the game, of *Final Fantasy*'s move into the next console generation. To any seasoned gamer, the most well-known part of the development of *Final Fantasy VII* is the defection that started it all. Long considered a Nintendo stalwart since the original *Final Fantasy*'s release on the NES in 1987, Square shifted to Sony's PlayStation for its CD-ROM capabilities over the Nintendo 64's comparatively limited cartridge media. This fitted the company's grand ambitions of this new, generation-defining sequel.

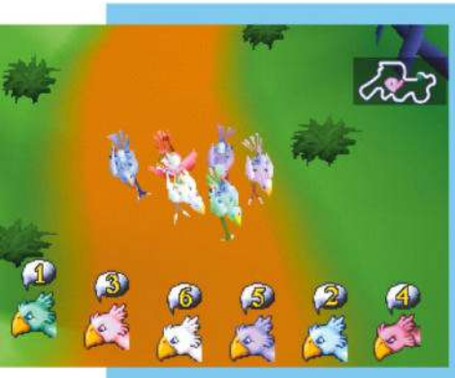
"We were fans of Nintendo's hardware, although in order to use CG movies in the game like we intended, we needed a lot of storage space, and for that reason decided on a platform that used the higher-capacity CD media," director Yoshinori Kitase tells us.

It is ironic that this franchise would soar on a Sony platform, given that Nintendo famously broke away from an agreement for CD-enabled SNES collaboration with the electronics giant earlier in the decade. The emerging disc format enabled *Final Fantasy VII* to be far more cinematic than its forebears – an important factor, especially to Sakaguchi. Yet an interesting factor in all this was the set of technical influences on the team, many of whom were from Western game development, as Kitase explains to us: "We looked at trends in the foreign-made PC games of the time, such as *Alone In The Dark* and *Heart Of Darkness* [and so on], and made it our objective to combine together smooth action sequences using polygon-based characters and clever camera work with the insertion of effective CG movies at a high level. I believe that we pretty much achieved our goals in this regard."

When it came to setting and story, *Final Fantasy VII* would similarly be a departure from series convention. While the previous entry in the series had a pronounced steampunk theme, the set of environments in the seventh game would vary massively from continent to continent, from a vast, polluted metropolis to backwater towns;

SIDE HUSTLES

The best of Final Fantasy VII's extra tasks and minigames



CHOCOBOS

Catching them, riding them, racing them and breeding them – the Chocobo element of *FFVII* is a game in itself, and becomes bewilderingly complex when you're looking to breed that lucrative Gold Chocobo, which can reach parts of the map that even the Highwind cannot.

BATTLE ON FORT CONDOR

Visiting Fort Condor triggers this intriguing little strategy offshoot, where you fund small skirmishes to hold back Shinra forces from the giant bird perched atop the fort. It's no *Age Of Empires*, but it shows how diverse the ideas are in *FFVII*.

SNOWBOARDING

On the second disc, Cloud gets the opportunity to snowboard down a mountain. Later in the game, it re-emerges as a tricky arcade game at Gold Saucer's Wonder Square. This minigame was popular enough to justify a mobile spin-off, which was only available in Japan.

MOTORCYCLE CHASE

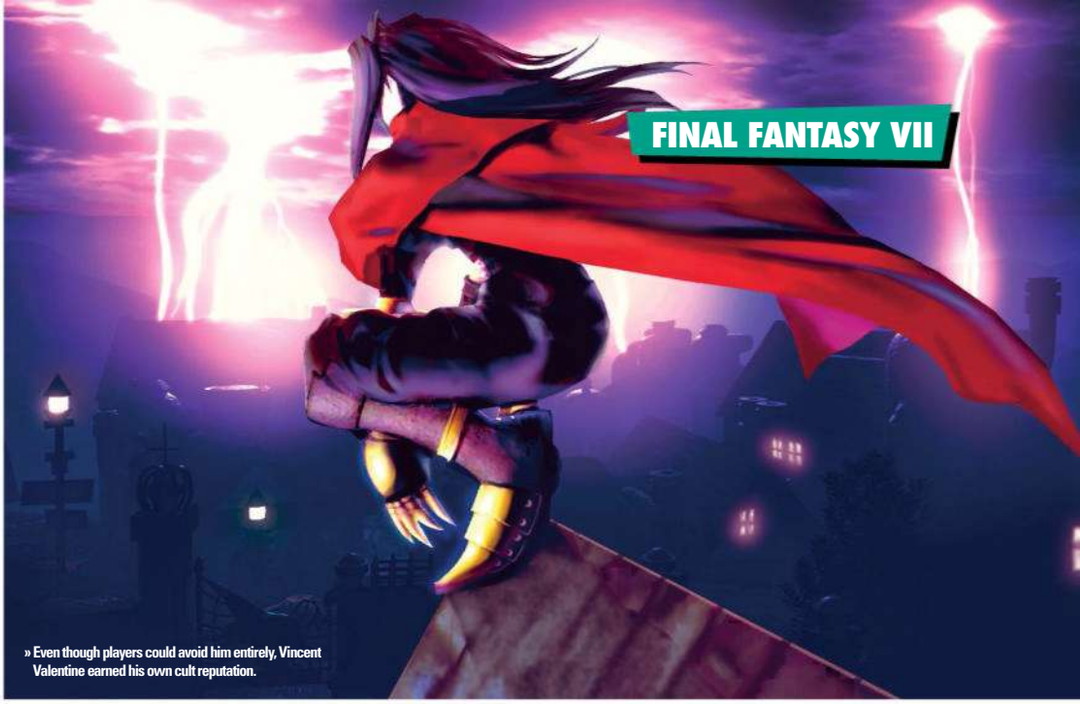
One of the nicest surprises early on is an action-packed minigame where you have to protect your comrades from Shinra soldiers on bikes by ramming them off the road with Cloud's inexplicably large Buster Sword. It's great fun.

FIRST-PERSON SHOOTING

Visiting the 'Speed' part of Gold Saucer triggers this bizarre but quite impressive first-person shooter section, where hitting a high score lands you a prize. This is notable for its kaleidoscopic visuals, in stark contrast to much of the game.

BATTLE ARENA

The only way to get Cloud's Omnislash Limit Break outside of the finale, and a clever means of extending the combat's appeal, the battle arena on Gold Saucer is a relentless challenge where you have to survive successive rounds of enemies and status ailments.



» Even though players could avoid him entirely, Vincent Valentine earned his own cult reputation.

FINAL FANTASY VII'S UNSUNG HERO

Kitase weighs in on the high popularity of Zack Fair, Cloud's former mentor

As you may recall, the entire flashback sequence where Cloud remembers the events in Nibelheim that led to Sephiroth's transformation into a twisted enemy turns out to be a bit different. Later, we learn that Cloud confused himself with Zack, his superior in the army. Ever since then, Zack has remained a popular figure among *Final Fantasy* fans, which led to the spin-off *Crisis Core*. His role in Cloud's story makes him a unique element in *FFVII*'s tangled web. "Zack is the vessel onto which Cloud twistedly projects his complexes towards SOLDIER [Shinra's elite fighting force]," Kitase tells us. "He was created by the scenario writer, [Kazushige Nojima], as he was trying to build up the mystery surrounding Cloud's past, and we did not originally think of Zack as a major character, but he seemed to be strangely popular with the fans. Much later on, Zack featured heavily in *Crisis Core*, and Mr Nojima was in charge of the scenario for both titles. When he first created Zack, I doubt that he could possibly have thought that we would be delving into the same character's story many years on!"

» [PlayStation] *Final Fantasy VII*'s Materia system is so deep that it can eventually transform the entire rhythm of a battle, by letting you alter the conditions of it.

that clash of futuristic technology against these remnants of a beautiful old world.

We asked Kitase to discuss the inspirations for the planet's creation, and he graciously passed our questions on to *FFVII*'s art director, Yusuke Naora. "Initially, we wanted to try something new by having a corporation as the major enemy while still keeping the game broadly in the fantasy genre," he explains, referring to the Shinra Electric Power Company. "Having decided on this concept, we actively included many steampunk-like elements to try to merge the appeal of traditional high-fantasy 'brick-built' structures and sci-fi elements at a high level. However, as there was to be magic present in this world, it would have been hard to have cyberpunk-esque unknown future technology sitting comfortably with the other influences, so we tried to keep that aspect down as much as possible."

Naora continues: "On the design side, we were also very much inspired to mix in things from many different periods in a semi-chaotic manner, including things from our everyday lives such as the newer buildings in Tokyo, the streets of Ginza, and the Shibuya station building." All this led to a laudably diverse set of environments, which still felt like a cohesive part of the same world.

The setting was closely connected to the narrative – the backdrop of *Final Fantasy VII*'s story is that the planet is suffering, being drained of resources by the ruthless Shinra, which is also a prominent military force. Yet the central conflict of the story is actually smaller-scale than that. For the developers, it was more about the symbiotic struggle between the hero, Cloud, and the mysterious, seemingly out-of-reach villain, Sephiroth, that drove the game forward, as Kitase explains: "Throughout the story, I really wanted to depict Sephiroth as an overwhelmingly powerful threat. However, if you have a villain as an actual opponent who appears before the heroes then however strong or charismatic you make the character, he will still feel very much 'life-sized' and limited in scope, reduced to another minor evil."

What source of inspiration helped the team tackle this issue? You'd be surprised. Kitase continues: "To solve this problem, I decided to present Sephiroth indirectly, making the player aware of his existence through hints and stories but not having him show himself before them much. The player sees the aftermath of his ruthless deeds but does not arrive at the source of the evil for a long time. This was the same method used by Steven Spielberg in the film *Jaws*. Finding the butchered President Shinra on the top floor of the Shinra building and the impaled body of the Midgar Zolom are moments symbolic of this approach."

Players don't properly encounter Sephiroth until they're around ten hours in, and even then it's in fleeting glimpses – we see him often in flashbacks, leading to the revelation about his grim origins and subsequent breakdown. He, along with the attached musical theme, 'One-Winged Angel', would become iconic aspects of *FFVII* upon release. Cloud, the amnesiac hero trying to piece his distressing memories back together, was an equal point of fascination for players. It's this dynamic, with their subsequently explored history of bloodshed and trauma, that players hadn't seen before in *Final Fantasy*. "Furthermore, however far the player pursues him, Sephiroth is just out of reach, and because of this our image of him becomes more and more idolised and idealised," says Kitase. "This story structure also overlaps with the reasons that Cloud has such a complex about his own past, and I believe it is an effective tool for showing the relationship between the two characters."

All the character designs and their personalities were left in the hands of the designers, a break from previous games, where Sakaguchi would oversee their conception. This was also the first project where Tetsuya Nomura would be the sole character designer, who, having contributed work to *Final Fantasy V* and *Final Fantasy VI*, replaced Yoshitaka Amano from the previous titles.

> "We made it our objective to combine smooth action sequences with CG movies at a high level"

» [PS5] *Final Fantasy VII Remake*'s combat is massively different to how it was on the original PlayStation.

» [PS4] Cloud Strife as he appears in the much-recommended remake of *Final Fantasy VII*.

A *Famitsu* interview with Nomura (translated by Andriasang) explains that Cloud was essentially his creation, yet Kitase told us that determining both the looks and personalities of every one of *Final Fantasy VII*'s iconic cast of characters was "largely the responsibility of [Nomura]". It marked a sea change for the series. Gone were the primarily medieval, dreamlike heroes of Amano, and in came a fresh, exciting cast that would have an extensive impact on Japanese popular culture – not to mention birth a string of ideas that would be appropriated into character clichés, like spiky hair and giant swords. Amano would still contribute character sketches and the iconic meteor logo, however.

The immense backstories for these heroes and villains were fine-tuned by scenario writer Kazushige Nojima, while many of the actual narrative ideas came from a unique exercise that once again showed Square's experimental approach. "When designing the game, we asked all staff on the *Final Fantasy* team to submit possible episode ideas for character backstories and created the overall stories by putting these together," says Kitase. "It was the scenario writer, Mr Nojima, who managed to put together a complete and detailed story from this massive pool of ideas, a process that was much like putting together a jigsaw puzzle."

This exercise led to an intriguing collection of stories across the cast of heroes, with one main plot driving it all: the planet's impending destruction at the hands of Sephiroth, where he would harness the world's natural defences – known as the Lifestream – for himself. The cast of *Final Fantasy VII*, including the tortured, unfocused Barret; the last of an ancient race Aerith (or Aeris – a misspelling in the game's translation, as you probably know); and down-and-out pilot Cid Highwind; as well as more esoteric faces like the tomb-dwelling, optional companion Vincent Valentine, struck a chord with gamers, as their stories dovetailed skilfully with the main narrative.

These small tales, even Sephiroth's, traced back to the all-encompassing Shinra plot device – the corporation draining the planet of its resources. Given that *Final Fantasy VII* was made in the mid-Nineties, you could draw obvious parallels with the real-world environmental issues at that time. Yet environmentalism, surprisingly, was not part of the team's storytelling agenda, Kitase explains: "We did not particularly plan on bringing out environmental destruction as a major theme of the game but rather intended the story to depict the internal struggles of Cloud and Sephiroth.

"However, if pushed I would say that this theme was not so much that of concern over destruction of the environment but more about how we wanted to show how civilisation and the environment coexist. Cloud and his companions first appear in the game as a group trying to take down the Mako reactors, but in the end, we see them getting help from the Lifestream which is the source of that energy, and going forward into a future of coexistence with the planet. I believe that this theme of how we can strike a balance and live in harmony with the environment is one that is shared by all of us."

The Lifestream is the literal embodiment of the planet's energy, where all life emerges from and where it returns to with death. Its genesis came from Sakaguchi, who had come up with the idea as a reaction to tragic events in his own life. "When we were creating *Final Fantasy III*, my mother passed away," he said in a video to coincide with *FFVII*'s release. "And ever since, I have been thinking about the theme of life. Life exists in many things, and I was curious about what would happen if I attempted to examine life in a mathematical and logical way; maybe this was my approach in overcoming the grief I was experiencing."

With that delicate balance in mind, an antagonistic force like Shinra seemed suitable – it also presented a fine opportunity to go against the curve of the last six games. "We had a feeling that ideas for villains in RPGs had kind of become stale and repetitive, with it always being something like a massive dragon or an evil ruler who had acquired an ancient power," says Kitase. "When we asked ourselves what a more modern take on a powerful evil would be, we came up with the idea of a corporation that pollutes the environment for excessive profit."

The most talked-about moment in this complex tale, though, would be the death of a major character. One of the conditions of running our exclusive interview from Square Enix was that we wouldn't reveal this character's name – but you know which one we're talking about. Everyone knows it. You might have spent hours training this character up before the event occurred. It didn't matter. This character was wiped out of the story. Such a brave decision would be the defining moment, and it stunned this new generation of JRPG fans and is still the subject of much conversation today.

It is odd that Square Enix declined to comment on the sequence, having done so in the past – even Kitase himself, back in 2003. It could be that the company is hoping new gamers discover *Final Fantasy VII* and is hoping to safeguard that twist for maximum emotional impact. Whatever the reason, that moment was designed by Square to create a sudden void in the player, to make them think they'd have acted differently were they to know it was coming.

There are more surprises besides, though. A major plot point some way into the game sees the threat level raised significantly as giant creatures, a super-boss motif of the series known as Weapons, march into the overworld and heighten the drama of the closing act. The Emerald and Ruby Weapons are especially tough to beat, yet incorporating these powerful entities as part of the Sephiroth storyline imbued them with a new importance. Kitase explains why the team opted to do this: "In all *Final Fantasy* games, we always put in very powerful monsters in the latter parts

CONSTANTIN JUPP

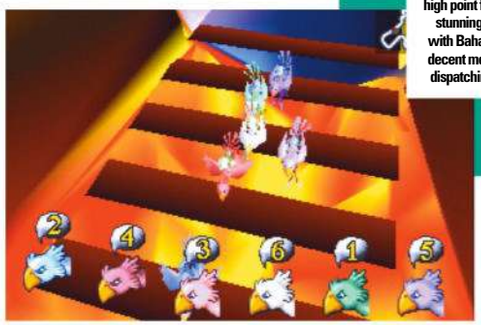
Senior release producer, Media Molecule

***Final Fantasy VII* made me realise that games were so much more than just running or shooting or fighting.** Far from mindless entertainment, they could actually stir emotion within the player. It's the game that inspired me to join the games industry and help create those experiences for others.

of the game to challenge dedicated players and to deepen the gameplay experience, enhancing the longevity of the title and giving something to do aside from the main quest. We had already got the concept of the Weapons as defenders of the planet for *FFVII* and so decided to tie that together with these play-enhancing features."

But the story, despite forever being the guiding light for the *Final Fantasy* series, was matched by *FFVII*'s immense technical and mechanical advances. Creating a masterpiece of this calibre, with such scope in setting and the jaw-dropping amount of iconography that would define Japanese RPGs from there on, was the product of a talented group of people, sharing a potent creative culture. We asked Kitase about the team's dynamic at the time.

"Before *FFVII,* we only really had 2D pixel art designers, but for this project many 3D CG specialists and designers came in from outside the company, leading to an interaction of various working cultures that was very stimulating," he says. "All the in-house designers also started to learn to use CG tools, and we held a lot of seminars and explanation meetings. I personally received instruction in how to use Alias PowerAnimator, and around a tenth of all the character motions seen in the game's event scenes were actually created by me!"



» [Top left] Catching and breeding Chocobos is one of the true tests of *Final Fantasy VII.*
» [Bottom right] *FFVII* is a high point for the series' stunning creatures, with Bahamut being a decent means of lazily dispatching enemies.

> "SEPHIROTH IS ALWAYS JUST OUT OF REACH, AND SO OUR IMAGE OF HIM BECOMES MORE AND MORE IDOLISED"

We had to ask Kitase if anything changed in development – and, as it happens, Square had a relatively airtight vision of *FFVII*, with only one change that fans will definitely have noticed.

"The only thing that we had to change during development was the level of deformation on the characters. The fact that the characters are depicted at different levels of deformation in the field, battle and CG sections is a remnant of these changes." Whereas field characters ended up being blocky 3D models, the characters in battle had far more detail. As Kitase mentions, too, you can see this difference in CG movies – some depict the characters in blocky form, while others, like Sephiroth before the flames of Nibelheim, are more impressively realised. It's a curious inconsistency, but of course forgivable in the face of the finished product's other achievements.

The locations have aged better, thanks to the heavy use of prerendered backgrounds. Yet part of *Final Fantasy VII*'s appeal to long-time fans was the introduction of a fully 3D world map. Despite the cinematic touches present in other parts of the experience, the world map was seen as an updated version of the SNES overworld. "This part of the game was not actually all that much of a challenge," says Kitase. "It goes without

RANDY PITCHFORD

CEO, Gearbox Software

"Obviously, role-playing games were a huge influence on *Borderlands*. *Final Fantasy* offered many of the standards and tropes that are borrowed by many role-playing games of today. The engagement and motivation that comes from levelling up and the draw of collecting loot first became clear to all of us when we did such things with pencil-and-paper games. While many PC games applied these principles, *Final Fantasy* managed to capture the design in a most accessible way at a time when our controllers had only a D-pad and two buttons. The elegance of the *Final Fantasy* approach to role-playing has inspired a generation.

In fact, the very first videogame that my wife and I played together from beginning to end was the first *Final Fantasy* game on the NES. To this day, we have fond memories of that experience and an irrational loyalty to the franchise. I know that many people see *Final Fantasy VII* as the high-water mark for the series, but for me it was the earlier *Final Fantasy* games on the NES and Super Nintendo that have had the most impact."

WHAT HAPPENS NEXT...

EXPANDED FFVII ADVENTURES

ADVENT CHILDREN

This cinematic direct follow-up to the *Final Fantasy VII* story hits and misses in equal measure. The action sequences are genuinely well-done and creative but the story quality nosedives when you realise it's all a big contrivance to resurrect Sephiroth and undermine the original adventure.

CRISIS CORE

This Zack Fair-starring prequel was one of the essential purchases of the PSP's library. Its action-oriented design proved ahead of its time, considering the direction future *Final Fantasy* titles have taken. Less popular was the inclusion of the character Genesis, a poetry-reciting edgelord played by the Japanese musician GACKT.

DIRGE OF CERBERUS

There's a universe where a Vincent Valentine-focused third-person shooter would have worked well. Sadly, it's not the one we live in. Despite the derision, *Dirge Of Cerberus* had a few high points, such as giving the villainous Professor Hojo more scenery to chew and shedding some more light on Vincent's origins.

saying that, at the time, creating data for a 3D map was hard work, but for better or worse we decided to do the map along pretty similar lines to a 2D world map from the *Final Fantasy* games of the Super Famicom era, so there were not a lot of problems with the overall vision."

Instead, the team had to spend more time worrying about the individual locations themselves, which were significantly more imaginative than their cartridge-based forebears. "It was actually a lot harder and took much more work realising the fully rendered backdrops for the towns and dungeons, as nothing like these had ever been done before at the time. Having said this, the world map in *FFVII* did play a very important role in the game. After the first part, which is spent in the oppressive and cramped environment of Midgar, the feeling of liberation and freedom at the moment when you step out onto the world map is one of the game's most memorable highlights." That's completely true, and this was a stone's throw from making it into our list of favourite moments. *FFVII* progressively puts more power in the player's hands through the way they interact with the world.

> "WHEN THINKING ABOUT A MODERN TAKE ON A POWERFUL EVIL, WE CAME UP WITH THE IDEA OF A CORPORATION"

Random battles would remain integral, but as directed by the SIGGRAPH presentation, the look of them marked an exciting leap in technology. "We had decided on the idea of battles in 3D, with the camera panning and zooming around the action, from before beginning development on *FFVII*. In 1995, we created a prototype game based on doing the battles from *FFVI* in 3D and showcased it at the SIGGRAPH convention that year. This test game was made with an eye to perfecting the idea for the battles in *FFVII*."

Aided by the straightforward yet endlessly customisable Materia-based ability system, as well as visually extravagant Limit Break attacks, the combat in *Final Fantasy VII* would never become a chore. This title also saw the best work of composer Nobuo Uematsu, building on his incredible music in *FFVI* with a series of stunning and highly memorable themes and leitmotifs. Any poignant, dark or pleasant instance is helped along enormously by his work, and he made an easy collaborator for Square. "We basically just showed Mr Uematsu the character designs and the scenario and had him familiarise with the overall themes and images of the game before letting him loose. There were no specific detailed requests, and he was allowed to create the score comparatively freely," says Kitase.

While HD technology and high-capacity storage media have let Square Enix realise the most elaborate of visions with *Final Fantasy*, there is something pure about the seventh game. It's such a well-rounded experience that it's obviously the product of a developer at a peak of creativity. Being the first *Final Fantasy* released in Europe, and armed with a slightly misleading marketing campaign that focused on FMVs over gameplay, it turned a historically marginalised genre into an international phenomenon.

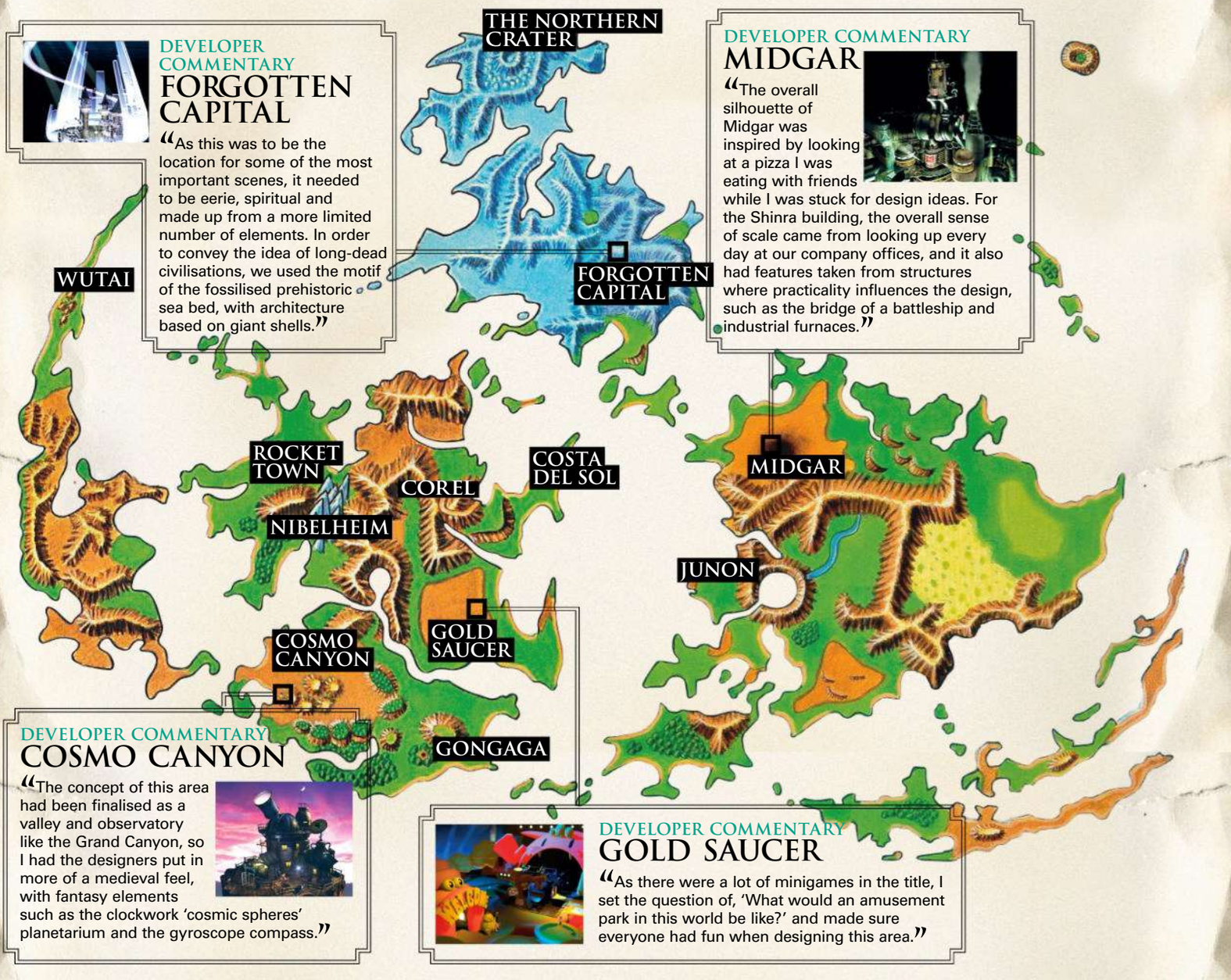
***Final Fantasy VII*'s appeal was so widely adopted that fans and curious outsiders petitioned Square Enix for it to receive the remake treatment.** This campaign lasted over a decade, and in 2020 fans finally got what they desired... well, part of it at least, as this reinterpretation is coming in instalments.

So far, the two entries in the *FFVII* remake trilogy take us up to the tragic events at the City Of The Ancients, with the planned finale taking up the unenviable task of wrapping up the rest of the plot. It's a remarkable showing, presenting the classic story with full voice acting and cinematic flair. That's not all, though, as the battle system has been expertly rewired to accommodate an action-oriented style of play. Plus, there's discussion on whether this is actually a remake; there are instances where characters – particularly Sephiroth and Aerith – seem to know what the road of fate has in store for them. Plus, with the inclusion of parallel realities, what twists are the team planning for the finale, exactly? Tantalising questions aside, this remake is an exciting interpretation of the *FFVII* canon worth following to its climax.

» A localisation snafu referred to Tifa's surname as Lockheart instead of the intended Lockhart.

THIS PLANET AS MY VESSEL

With insight from Final Fantasy VII's art director, Yusuke Naora, we pick out key locations from the story



DEVELOPER COMMENTARY

FORGOTTEN CAPITAL

"As this was to be the location for some of the most important scenes, it needed to be eerie, spiritual and made up from a more limited number of elements. In order to convey the idea of long-dead civilisations, we used the motif of the fossilised prehistoric sea bed, with architecture based on giant shells."

DEVELOPER COMMENTARY

MIDGAR

"The overall silhouette of Midgar was inspired by looking at a pizza I was eating with friends while I was stuck for design ideas. For the Shinra building, the overall sense of scale came from looking up every day at our company offices, and it also had features taken from structures where practicality influences the design, such as the bridge of a battleship and industrial furnaces."

DEVELOPER COMMENTARY

COSMO CANYON

"The concept of this area had been finalised as a valley and observatory like the Grand Canyon, so I had the designers put in more of a medieval feel, with fantasy elements such as the clockwork 'cosmic spheres' planetarium and the gyroscope compass."

DEVELOPER COMMENTARY

GOLD SAUCER

"As there were a lot of minigames in the title, I set the question of, 'What would an amusement park in this world be like?' and made sure everyone had fun when designing this area."

☐ JUNON

A port town that is also a military base, Junon is attacked later on by Sapphire Weapon, where the ceremonious Junon cannon takes it down.

☐ THE NORTHERN CRATER

This is where Jenova landed about 2,000 years before the start of the story – a creepy, expansive abyss where the climax of the game takes place.

☐ NIBELHEIM

As more observant players will know, after Nibelheim was burnt down by Sephiroth, the entire town was rebuilt by Shinra and the citizens were replaced with its employees in a cover-up.

☐ COSTA DEL SOL

An utterly bizarre, Spanish-style holiday town with a relaxed atmosphere, players could later buy an overpriced house in this pleasantly different part of the world map.

☐ GONGAGA

This sad little town is the location of an exploded Mako reactor, with the citizens mourning their dead. Like a sister town of Nibelheim, in a strange way.

☐ WUTAI

A more culturally differentiated locale than everywhere else, Wutai is the sole town on the far western continent and marks the only location where the heroes team up with the Turks.

☐ COREL

Barret's hometown turned post-Shinra-wreck, this is where you can catch the lift to the far more jolly Gold Saucer. There's a ruddy superb chase sequence here later in the game, too.

☐ ROCKET TOWN

Built around a launchpad, this is where one of the more interesting characters, foul-mouthed pilot Cid Highwind, hails from. It's a cheerful moment when you finally get the rocket into space.

FLASHBACK

WORLD WARRIORS: THE GOLDEN AGE OF FIGHTING GAMES

THE NINETIES PROVED TO BE A PROVING GROUND FOR DIGITAL BEATDOWNS. DEVELOPERS AND GAMERS ALIKE ENTERED THE RING TO PROVE THEMSELVES WORTHY OF SUPREMACY

WORDS BY MOLLIE TAYLOR

It's easy to think of fighting games as niche these days; dominated by the few willing to pour over frames while casuals whip out a *Mortal Kombat* to button-mash. In the Nineties, though? Fighting games were the reigning king of both arcades and consoles. That popularity would arguably be its undoing by the start of the millennium thanks to oversaturation – but the Nineties was a staggeringly prosperous decade for fight fans and the developers pushing out half a dozen ways to virtually batter your buddies.

» [Arcade] Characters introduced in Capcom's *Street Fighter II* are still beloved mainstays of the series today.

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While the concept of fighting games can be traced to 1976's *Heavyweight Champ*, it was the decade that followed which laid the groundwork for the genre's takeoff. 1984 saw Technos Japan's *Karate Champ*, which brought one-on-one fighting to the forefront, with a *Player Vs Player* version adding multiplayer.

Konami's *Yie Ar Kung-Fu* followed shortly after. It evolved on the concept by introducing a health bar displayed above both fighters, something almost every fighting game uses today. The obsession continued that same year when Irem released *Kung-Fu Master*, designed by Takashi Nishiyama. It was a beat-'em-up, but the end of each level contained a one-on-one boss fight. Nishiyama would join Capcom shortly after, evolving his ideas for *Trojan* in 1986, with the NES port receiving a dedicated fighting game mode.

These games were a blueprint for Nishiyama's next creation: 1987's *Street Fighter*. It boasted pressure-sensitive buttons that spat out different moves based on how hard you hit them. A few damaged cabinets later, a revised six-button system was implemented, and the series never looked back.

The offerings thus far had been fine, but not groundbreaking. The Nineties arrived, and the arcade scene was quieting. Then Capcom released *Street Fighter II* in 1991. It was a striking evolution from its predecessor both graphically and mechanically. The game boasted a roster of eight playable characters from around the globe, like Chinese cop Chun-Li and Brazilian ginger Hulk-beast Blanka.

Each fighter even came with unique movesets, with hits that could be strung together to create combos. It was a mechanic only previously seen in 1985's *Shanghai Kid* and its inclusion was a complete accident on Capcom's part. Still, the tight timing opened up a wealth of possibilities for success, and players latched onto it.

Soon enough, more developers were clamouring for a slice of the pie. In 1992, Midway tossed their hat into the ring with *Mortal Kombat*. It traded hand-drawn sprites for digitised ones, and street violence for… well, ultraviolence. Characters ripped each other's spines out, kicked heads clean off, and punted opponents into spiky death pits.

Fighting games were introduced to 3D in 1993 when Sega released *Virtua Fighter*. It was still secretly '2D' at heart, mind you, as fighters were still only able to move along a single plane. But when *Virtua*

» [Arcade] *Dead Or Alive* gained a reputation for its sexualised characters, but there are great fighting game fundamentals beneath all that.

» Today, tournaments like EVO draw the eyes of millions worldwide. None of that would have been possible if it weren't for the Nineties scene.

» [Dreamcast] The revolution didn't solely take place in arcades. Home console iterations of fighting games held their own and let players comfortably hone their skills.

» [Arcade] There was an 'anything goes' approach to fighting game character design that was sure to catch the eye of any passerby.

Fighter 2 was released a year later and introduced eight-way movement, the game exploded in Japan.

Another 3D series was born in 1994: Namco's *Tekken*. While its arcade popularity was a hair behind Sega's offering, the PlayStation port was a hit, marking the first game for the console to sell over a million copies. Its worldwide popularity would continue to climb when *Tekken 2* was released in 1995, becoming the highest-grossing arcade game of 1996.

In the meantime, Capcom had continued to revise its golden child, culminating in 1994's *Super Street Fighter II Turbo*. Between it and 1996's *Street Fighter Alpha 2*, a competitive scene had formed in the States. The Golfland arcade hall in Sunnyvale, California, established itself as a hotspot for would-be competitors looking to go stick-to-stick with other players.

Smack talk went from small arcade rivalries to statewide declarations of folk convinced they were the greatest. Brothers Tom and Tony Cannon, along with Joey Cuellar and Seth Killian, tested that bravado with Battle By The Bay in 1996, an open tournament that saw 40 contestants gather from the States and beyond. It was the first event of what would become Evo – the world's largest fighting game throwdown.

As the turn of the millennium approached, fighting games held out against a rapidly saturating market. Namco released the highly successful *Tekken 3* in 1997, as well as *Soul Blade* and *SoulCalibur* in 1996 and 1998 respectively, popularising weapon-based 3D fighting. The latter became one of the first to receive a Dreamcast console port superior to its arcade counterpart, a technical feat for the time.

Tecmo's *Dead Or Alive* arrived in 1996 with a sequel three years later, introducing a more simple, fast-paced 3D fighter as well as, uh, 'jiggle' physics. On the 2D side, however, things were in a downturn. *Street Fighter III* struggled to break even, with its final iteration, *3rd Strike,* only finding success years after release.

Despite an eventual decline, the golden age of fighting games remains one of the coolest and most fondly remembered times in videogaming history. It revitalised the arcade culture and birthed the esports scene. The genre's constant hunger for innovation would spur inspiration in remarkable ways, like *Virtua Fighter* influencing Lara Croft's creation. We have a lot to thank the Nineties fighting game scene for today, even if the genre is maintaining a more humble appearance these days.

TOTAL KNOCKOUTS

EVEN MORE FIGHTING GAMES THAT DOMINATED THE DECADE

MORTAL KOMBAT II

Released in 1993, *Mortal Kombat II* capitalised on the frenzy surrounding its predecessor. It was bigger, better and bloodier, with an increased character roster and brutal fatalities. Critics and consumers loved it, making it the highest-grossing arcade game of 1994 in America, and its subsequent home console versions were hailed as near-perfect ports.

KILLER INSTINCT

Rare's answer to the *Mortal Kombat* hype, 1994's *Killer Instinct,* wasn't as bloody but still packed a punch. It boasted some wickedly cool character designs like cyborg Fulgore and skeleton swordsman Spinal. Its outlandish ultra combos could reach close to triple digits and, quite frankly, it ripped.

THE KING OF FIGHTERS '94

After Takashi Nishiyama left Capcom for SNK, he created *Art Of Fighting* and *Fatal Fury.* Their rosters would then cross over in the developer's third game, *The King Of Fighters.* It took the genre a step further by introducing team battles, having players pick three characters each instead of one.

BATTLE ARENA TOSHINDEN

Before the *Soul* series, there was *Battle Arena Toshinden* in 1995. It was a graphical spectacle for the time, and that year ended up almost selling as many PlayStation copies as Sony did of its console in the United States. It's also credited with implementing the humble sidestep, which helped take these games into true 3D.

X-MEN VS STREET FIGHTER

King Of Fighters may have pioneered the crossover, but 1996's *X-Men Vs Street Fighter* took it to the next level by introducing an external franchise. Its arcade popularity was a slow burn, and the PlayStation port was criticised for removing tag battles, but subsequent entries evolved into the much-loved *Marvel Vs Capcom* series.

Nintendo 64

» **MANUFACTURER:** Nintendo » **YEAR:** 1996
» **COST:** £249.99 (launch), £60+ (today, unboxed,) £120+ (today, boxed)

When home consoles were ready for the leap to 3D gaming, the engineers at Silicon Graphics felt that they had the right technology to make it work. The company approached Sega with a console design, but the company's Japanese engineers were not convinced by the product and opted for their own design, resulting in the complex and over-engineered Saturn. SGI found a much more receptive partner in Sega's arch rival, Nintendo – however, Nintendo would not make it to market until the middle of 1996, giving Sega and more importantly Sony a large head start in the market.

The raw power of the N64, in combination with the development talent Nintendo had access to, ensured that the machine played host to plenty of all-time classics, including *Super Mario 64*, and the unusual inclusion of four control ports enabled multiplayer classics including *GoldenEye 007* and *Mario Kart 64*. However, the decision to stick with cartridges instead of moving to CDs angered some publishers and kept game prices high for consumers, with some third-party games costing up to £70. Ultimately, the system didn't do as well for Nintendo as its predecessor and was heavily outsold by the PlayStation, but the machine still retains plenty of fans. ✱

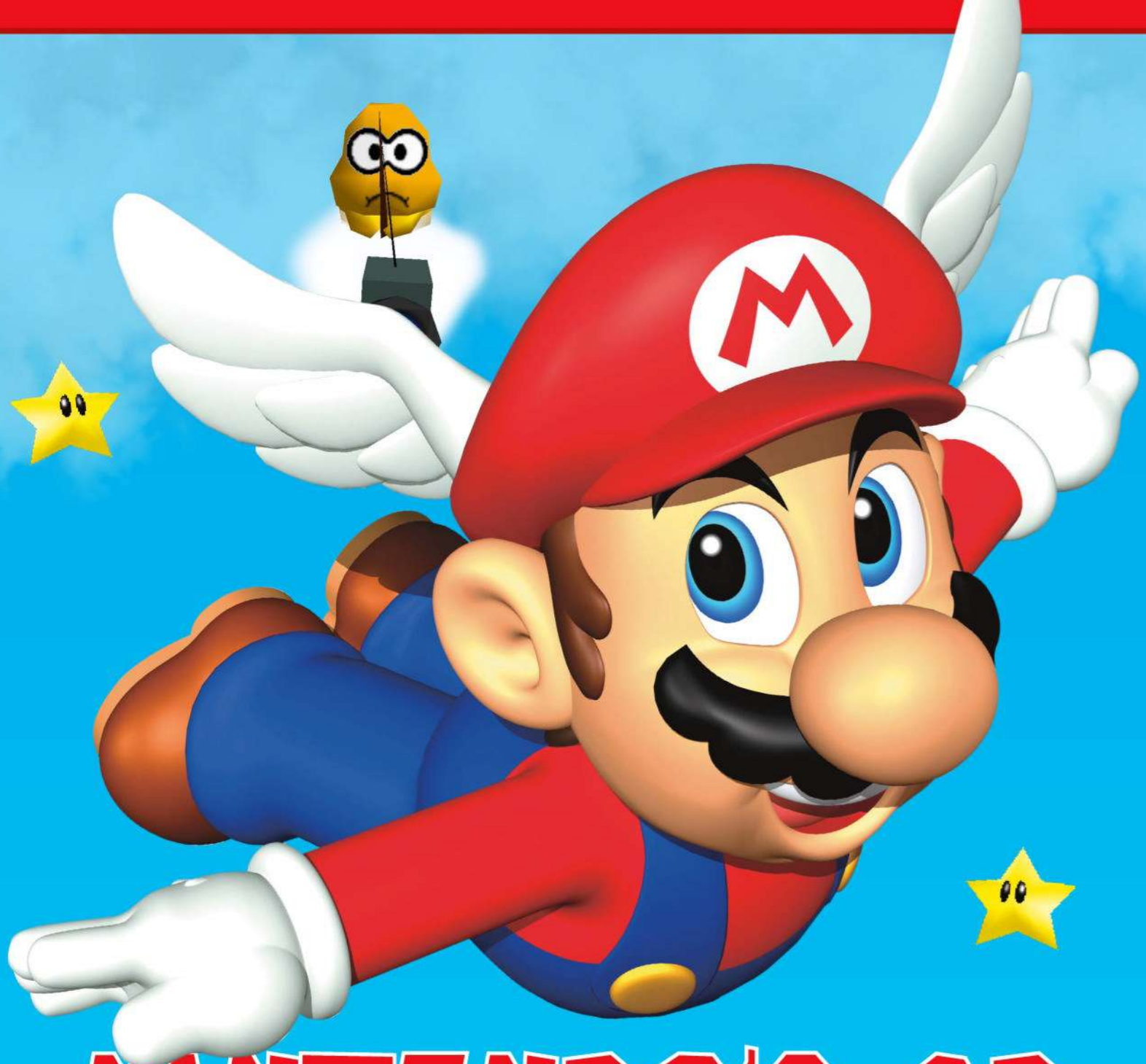
Nintendo 64 fact

■ The N64 is the only Nintendo console to have fallen to third place within its generation in the Japanese market, having been outsold by both the PlayStation and Saturn in that region.

PROCESSOR: 64-BIT NEC VR4300 (MIPS R4300I-BASED) CPU (93.75MHZ)
RAM: 4MB MAIN MEMORY (EXPANDABLE TO 8MB)
GRAPHICS: REALITY COPROCESSOR CUSTOM GPU (62.5MHZ)
AUDIO: 16-24X SOFTWARE DRIVEN 16-BIT PCM CHANNELS
MEDIA: ROM CARTRIDGE (UP TO 64MB)

Essential Game Super Mario 64

The N64 feels like it was made specifically to play *Super Mario 64*, and the game alone could justify ownership of the console. The 3D worlds were revolutionary in the mid-Nineties, and remain engaging to explore even if they don't feel quite so expansive today. The quest to collect all 120 stars is always fun, but for us much of the joy of the game comes from simply controlling Mario. The way he leaps and slides around each area is simply perfect motion design – even today, we find ourselves perfectly capable of wasting time by just aimlessly jumping about in the castle grounds.



NINTENDO'S 3D GAME-CHANGER

In an age when it was said that 3D platform games didn't work, Nintendo proved us all wrong. Nick Thorpe and Luke Albigés examine the impact of the N64's most revolutionary game…

Nintendo has always been a company that has set its own agenda, and that has rarely been more apparent than it was with the N64. Rather than following the likes of 3DO, Sega and Sony into the CD-ROM market, it stuck doggedly to cartridges. Instead of simply evolving the SNES pad, it produced a radical three-pronged controller design. Neither of those design choices proved to be the future – it's a tall order to convince an entire industry to do things differently, after all. The thing that made people take note was *Super Mario 64*, though – a bold and unique design, just like the machine it ran on. However, unlike its host hardware, it made a profound impact on the rest of the industry, shaping the development of future platform games and 3D games in general for years to come.

Of course, *Super Mario 64* had to be a bold design. The one common feature of 3D platform games released before *Super Mario 64* is that they were all distinct creations, as no two developers had the same vision of how to adapt the genre to the polygonal revolution. Exact gave us *Jumping Flash!*, a game which offered free-roaming stages, viewed from a first-person perspective. Realtime Associates delivered *Bug!*, which featured 3D stages comprised of interlocking straight paths, thus strictly regulating player movement. Xing's *Floating Runner* utilised free-roaming stages but employed a fixed perspective that made it feel almost like a top-down 2D game. Even if Nintendo had wanted to follow convention with Mario's 3D debut, there was no convention to follow.

The other reason that it had to be a groundbreaking game was the weight of expectation placed upon it at the time. "Up until *Mario 64*, and probably until *Mario Galaxy*, there has always been expectation surrounding a new Nintendo console and with it a new *Mario*," says Paul Davies, who was the editor of *Computer & Video Games* during the development and release of *Super Mario 64*. "So, even though we had no idea how this would shape up, the prospect of *Ultra 64 Mario* was enough to affect your breathing for a while."

Even those close to Nintendo weren't aware of what was in the works. "I was working for Software Creations at the time and they were part of the original 'Dream Team' of developers working on N64," recalls John Pickford. "I was lucky enough to be part of a group to visit the Shoshinkai 1995 show in Tokyo for the first unveiling of the Ultra 64 and its software. When we landed at the airport, I remember bumping into several other British developers including the Stampers from Rare and David Jones from DMA Design. David said something along the lines of, 'I hear *Mario* is looking very good.' That was the first time I had heard there was a *Mario* game in development. There had been zero publicity or even mention of *Mario* until that point."

» [Nintendo 64] Later levels typically featured more floating islands, and consequently greater risk of death by plummeting.

» John Pickford was one of the early 'Dream Team' developers for the N64 and had an early glimpse of *Mario 64*.

The first showing elicited strong reactions from all who saw it. "I was so excited, I tried to impress the hotel staff with my bagful of press materials and transparencies," Paul confesses. "They were not impressed." According to John, other people were feeling something closer to fear, or at the least denial. "I don't know if it's true but I heard a rumour that 'Sony execs' were going around telling people that the game was running on hidden 'workstations'," he recalls. "Hard to believe now but a lot of the technical elements (MIP mapping, filtering, perspective-correct textures, z-buffering, hardware anti-aliasing) were all new to consoles and not present on PlayStation."

The version of *Super Mario 64* shown at Shoshinkai in November 1995 might not look immediately recognisable to fans – even the familiar entrance hall of the castle is different – but that incredible visual polish carried over to the finished game because there was no fabrication or trickery involved. The N64 was perfectly capable of all of those features and gave *Super Mario 64*'s worlds and characters a feeling of solidity that immediately placed both the game and console ahead of the competition.

"Everything just worked so incredibly slickly," says Andrew Oliver, then running *Glover* developer Interactive Studios. "In the 'other camp', we'd been amazed by PlayStation's 3D capabilities. But whilst Sony pushed all developers to make 3D games, many of us struggled with certain aspects. Cameras were shaky, 3D meshes showed cracks, textures warped and getting a third-person character to feel really nice, and for the camera to track it well always seemed just out of reach." Nintendo's game exhibited none of those problems. "*Mario 64* was so professional, no shake, no shudder, or warping or cracking textures. The PlayStation was 32-bit with integer maths and the N64 was 64-bit with floating point maths, so there was good reason it worked so much better."

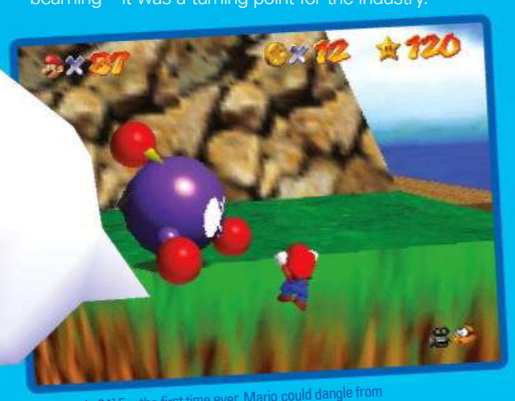
Mark R Jones, a former artist for Ocean, was similarly taken aback by the leap in 3D quality. "The graphics were jaw-dropping. I'd only really played a few 3D games on the PlayStation and this was a massive improvement," he remembers. "Round things looked round and not like a series of joined-up straight lines. The colours were bright and vibrant and, despite many games claiming that playing them was 'like controlling a cartoon', I think that with this game it had really and finally happened for real. I remember everyone at school saying that *Knight Lore* on the Spectrum was like a cartoon back in 1984. But really it wasn't. *Mario* was the real thing. It had actually happened."

The press immediately set the hype train in motion. New images would appear in magazines every month, whipping anticipation up to a fever pitch – but it wasn't just the public that was excited. Even developers couldn't wait to get their hands on the game. "Being a fan of the 2D *Mario* series I was fascinated by how they'd brought *Mario* into 3D, what problems they'd encountered and the approaches they took to tackling them," says Chris Sutherland of Playtonic Games. At Rare, then a Nintendo subsidiary, he served as the lead programmer on *Banjo-Kazooie*. "One might have expected the transition to 3D to have been gradual, eg Nintendo could have taken a traditional 2D *Mario* course and given it hints of 3D (similar to the *Donkey Kong Country Returns*) but instead they jumped in head first to give the player an immersive world to explore," he continues. "This set the benchmark – anyone releasing a 3D platformer thereafter on N64 was going to be compared with *Mario* by players!"

Word got around the *Killer Instinct* barn that the new *Mario* game was in the building so we all piled into Chris Tilston's room for a gander," recalls Chris Seavor, who led the development of *Conker's Bad Fur Day*. "I think this was a little bit before it actually released and it was the Japanese version, so nobody could understand any of the text. Needless to say, it was pretty mind-blowing. I'd never seen anything like it before. Then Tim [Stamper] turned up looking rather mortified that we were all seeing this 'super secret' thing and took it away… Still, I'll never forget that moment."

Andrew's first experience with the game was equally memorable. "It was the summer of 1996 at the E3 show in Los Angeles – Nintendo had a huge stand with around 30 N64s dedicated to *Mario 64* and people queuing three deep to take turns. Most were running around outside the castle – just enjoying the experience of running Mario around a beautiful cartoon fantasy world. They nailed the feel-good controls of a character running around a 3D world. Everyone was beaming – it was a turning point for the industry."

» Andrew Oliver is well aware of creating 3D platformers for the N64, having made *Glover*.



» [Nintendo 64] For the first time ever, Mario could dangle from ledges and pull himself up after a close jump.

» Chris Sutherland was responsible for *Banjo-Kazooie* and later *Yooka-Laylee*.

» [Nintendo 64] Unlike the main stages, boss stages were typically linear affairs with little freedom to explore.

> **"This set the benchmark – anyone releasing a 3D platformer thereafter on N64 was going to be compared with Mario by players!"**
>
> Chris Sutherland

The importance of solid controls in *Super Mario 64* can't be overstated. "It was the first time I had played a game where messing around with the character's abilities was a lot of fun even with nothing specific to do," says Gregg Mayles, a Rare developer and *Banjo-Kazooie*'s designer. "It has still not been beaten, in my honest opinion," Chris Seavor adds. "Slick, tight, great animation and totally intuitive. The first attempt at such a control type and they nailed it for the ages." In fact, he found that even the difficult aspects of controlling the plucky plumber provided satisfaction. "There was a particular mechanic that took me ages to get to grips with, which involved jumping off a wall, I just couldn't do it. Then, one day it clicked, and the sheer joy of jumping up and up from wall to wall, in 3D, was a revelation."

Paul's first impression of the game centred on "using the central, solitary analogue stick to help Mario perform backflips and dodge around the first level of the game", and it was the analogue stick that did a lot of the work. John explains the appeal well: "The self-centring thumb stick was the first viable analogue joystick I'd come across. Analogue sticks have been around forever but they were always near-enough impossible to use. *Mario* had effortless, expressive, intuitive control of a character in a 3D world," he says. "Back then, it was more or less accepted that 3D platformers don't work. There had been a few noble attempts but they were all difficult and confusing to play. *Mario 64* had you running, skipping, backflipping, climbing trees and even flying. Nintendo had done the impossible."

Of course, all of that excellent control would have been for nought if the game didn't provide adequate space to utilise it, and challenges to overcome. Nintendo delivered in both regards. Paul remembers the sense of disbelief in the office at the time. "The art designer of *C&VG* was asking me all these questions because he doubted that much of what he had heard was true: 'Can I just run onto that bridge and jump into the water? And then I can swim? Under the water?'" For Gregg, the structure was as important as the space. "3D games up to this point felt restricted in where you could go and what you could do, but *Mario 64* removed these restrictions," he explains. "The freedom made the worlds a joy to explore, coupled with a progression system which allowed you to tackle challenges in the order you wanted to."

» [Nintendo 64] Level design was supremely clever – Wet-Dry World required manipulation of water levels to achieve your goals.

Instead of the simple 'reach-the-goal' gameplay of 2D platform games, each course in *Super Mario 64* offered a selection of challenges, each of which awarded a Star upon completion. They could range from simply locating red coins to defeating bosses, winning races or just difficult platform challenges. Even Peach's Castle, the hub through which every other level was accessed, held Stars to find. Naturally, every player had their favourite moments. "Cool Cool Mountain was a favourite," says Gregg. "The way the slide race connected the top of the level to the bottom was really clever and Mario getting stuck headfirst in the snow after a long fall was pure indulgent charm."

"My memory is really fuzzy, but when I try to recall anything it's like looking at my happier moments of childhood," says Paul as he recounts some personal highlights. "Swinging Bowser by the tail. Finding that bottle underwater somewhere and being convinced that it held a door to a secret zone or something. We thought there would be treats hidden everywhere, and usually there were. Chasing the rabbit, because it was running away so may as well, and being led to something special." Mark found himself astounded by the longevity of the game. "Even later on, after you'd been playing the game for hours, there were new things to see," he remembers, "like when Mario turned into liquid metal. You then have this completely metal Mario, like the baddy from *Terminator 2*."

» [Nintendo 64] These balls rolled realistically around banks, producing lateral movement that could trip unwary players up.

DIFFERENT STROKES

Mario's 3D debut was so good it launched the DS, too. But the DS version was no lazy port – it was a remake with new features…

MORE CHARACTERS

■ In addition to Mario, three extra characters – Yoshi, Wario and Luigi – were made playable, each with slight differences. Luigi's jumps are higher at the cost of handling, for instance, while Yoshi gets a unique hybrid of his *Yoshi's Island* moveset and the original *Super Mario 64* one. Collecting caps mid-level lets you switch between them.

NEW ABILITIES

■ Classic *Super Mario 64* power-ups, like the Wing Cap, Vanish Cap and Metal Cap, are split among each of the characters, while new powers include mushrooms that can boost character size and damage (like the Mega Mushrooms seen later in the series) and a fire breath move for Yoshi. Several Power Stars are tied to the character-specific abilities.

EXTRA STARS

■ There are 37 additional Power Stars in the DS version, although several original ones were altered or removed for a grand total of 150. Many of the new ones are Switch Stars (which are triggered by a switch and must be collected before they vanish). Collecting every Star still allows access to the castle roof via the cannon in the grounds, although Yoshi is no longer there as he's now playable.

» Rare's Gregg Mayles was the designer for both *Banjo-Kazooie* and *Banjo-Tooie*.

MULTIPLAYER & MINIGAMES

■ VS Mode lets up to four players face off in arenas in an attempt to grab as many Stars and Coins as possible within a time limit. There are also unlockable minigames, which can be earned by catching rabbits in the main game. These are largely simple distractions, all of which are designed to showcase various uses for the handheld's touchscreen.

CONTROL OPTIONS

■ Given that the DS didn't have an analogue stick, Nintendo had to get creative with its input methods here. One option is to use digital control with an extra run button, although this lacks precision. The other uses the touchscreen as a virtual analogue stick and, while tricky to get used to, this is the best of the two options once you manage to adjust to it.

IMPROVED GRAPHICS

■ A combination of decent processing power and a smaller screen means that many aspects of the graphics see a marked improvement on DS – Bowser's model in particular is more in line with his modern look, while there are plenty of notable changes (most for the better) over the course of the game. The second screen is also used to display an overhead course map.

» [Nintendo 64] Jumping over waves of ice is just one of the challenges in Snow Man's Land.

While *Super Mario 64* served as a source of boundless joy for players, it served as an enormous kick in the rear for developers of other 3D games – Nintendo was way out in front and everyone else was playing catch-up. "Every developer studied that game. Even more than ten years later it was quite common to see programmers boot up *Mario 64* to see how some aspect of the controls or camera systems worked," says John. "I'd say the first result of that was *Tomb Raider* which clearly benefited from that Shoshinkai 95 showing – particularly with the swimming controls." Mark has a similar take. "It did definitely pave the way for the next generation of 3D platformers. Later games like *Banjo Kazooie* and *Donkey Kong 64*, two of my most favourite N64 titles, wouldn't have been as good had *Mario* not been as well put together," he remarks. "You can just imagine the coders at Rare having *Mario* set up next to their stations looking at it and saying, 'Right, now we have to do *that* bit better.' And in a lot of cases, they did. But Mario showed the way forward."

Mark is dead on the money – the developers at Rare were definitely influenced by the work of what was then their parent company when creating those games. "At the time, we [were] experimenting with a '2.5D' look for a platform game that felt like an evolution of the *Donkey Kong Country* games we had created, but after seeing *Mario* we knew fully 3D worlds were going to be the future," Gregg confirms. "In the past, if we've looked to solve a problem we'd often look to see how other games have tackled similar issues," Chris Sutherland says. "With *Mario 64* being the first of its kind, that became the de-facto place to look for inspiration to solutions when we started building 3D platformers on the N64."

However, there were definitely areas in which the *Banjo-Kazooie* team looked to improve upon the *Super Mario 64* experience, and they put a lot of effort into distinguishing their game from Nintendo's classic. "We wanted to ensure *Banjo-Kazooie* had the Rare feel. I wanted Banjo to have a very solid and predictable feel to his control, as opposed to the higher level of skill required to master the inertia that sometimes made *Mario*'s control challenging," notes Gregg. "I also wanted our worlds to feel a lot more grounded, basing each one in believable realism that was given a fantastical and humorous twist."

"We wanted to see more visual detail," Chris Sutherland elaborates, "especially as we'd just been producing very detailed prerendered visuals with games like *Donkey Kong Country*. The challenge is to not

MARIO'S MARVELLOUS MOVES

A closer look at the plucky plumber's amazingly agile abilities

MOVEMENT (Analogue Stick)

■ Full control over Mario's movement speed is an integral aspect of the game, allowing for a degree of freedom and precision that digital control simply can't offer in 3D space.

PUNCH B

■ A new addition to Mario's arsenal, this allows for more ways of interacting with the world, whether that be hitting blocks and switches or smacking enemies instead of jumping on them.

JUMP A

■ Perfect for when you don't want to be on the ground any more, Mario's staple move is as versatile as ever here – the longer you hold the button, the higher Mario will jump.

CROUCH Z

■ Where once you would just press down on the D-pad to make Mario crouch, here a bespoke button is needed. Rarely required on its own, but frequently incorporated into advanced techniques.

DOUBLE JUMP A, A

■ Time a second jump for immediately after you land from the first and you'll launch Mario slightly higher, with an audio cue to let you know you've performed this successfully.

KICK B (While jumping)

■ There's more to this move than it seems – it maintains Mario's momentum from whatever he's doing, making it a key ingredient of any speedrun rather than an offensive move.

TRIPLE JUMP A, A, A

■ A third timed leap is also possible, this time giving a much more obvious and useful height boost. With the Wing Cap on, this move will send Mario soaring off into the sky.

DIVE B (While moving)

■ Casual players might not like this move on account of how often it comes out instead of the punch while moving, but experts swear by it for grabbing objects without losing too much momentum.

BACKFLIP Z + A

■ Similar to the direction-changing somersault, only performed from a static crouch. Given Mario's general mobility, the somersault is generally considered to be more useful.

SWEEP KICK Z + B

■ Useful for making Mario perform extremely brief breakdancing displays, but not a lot more, sadly. Still, variety is never a bad thing, so bust a move from time to time!

LONG JUMP Z + A (While running)

■ Timing is key to mastering this long-range leap – press and hold Z while running to crouch-slide and quickly press A to send Mario flying. Bold use of this can skip many obstacles and hazards.

CLING (Land near platform edge or slowly walk off ledge)

■ Mario no longer has to fear death from slightly misjudging distance. Fall just short of a ledge and you'll grab the edge and can pull yourself up, sacrificing speed for safety.

SOMERSAULT (Analogue stick away from direction of running) + A

■ Jerk the stick away from the direction of travel and jump to perform a flip that goes much higher than a regular jump – great for quickly getting a vertical boost.

SLIDE KICK Z + B (While running)

■ Performed in the same manner as the long jump, only with B instead of A. This will earn you extra style points, but it's far from an essential part of Mario's repertoire.

WALL JUMP (Jump at wall, analogue stick away) + A

■ After launching himself directly into a wall, Mario can kick off it to change direction and gain height. Timing and execution are tricky, but mastery allows for some amazing shortcuts.

> **"With Super Mario 64 being the first of its kind, that became the de facto place to look for inspiration to solutions"**
>
> Chris Sutherland

» Chris Seavor was the brains behind *Conker's Bad Fur Day.*

» [Nintendo 64] The camera would intelligently move to positions, likely to provide a helpful perspective.

overwhelm the player with detail – it still needs to be clear what items can be walked on, when a floor is slippy and so on. Likewise, we wanted the architecture/geometry of the worlds to be more complex and interesting – but in doing so, the camera that follows the player needs to become more complex and clever to handle unusual situations and to avoid confusing the player."

Getting the camera right is a task that Gregg remembers vividly. "When I played *Mario 64,* I didn't feel the camera was that good, but the reality of just how hard a job this is to get right became apparent when we created our own camera systems," he reminisces. "In hindsight, Mario's camera had the right goals in trying to be as dynamic as possible and mostly got it right. The 3D worlds that we created were even more complex than Mario's and created major headaches for us. Sadly a good camera system is invisible and something nobody talks about, but one that has even minor problems gets a lot of attention."

With Rare more accustomed to 3D game development by the time of *Conker's Bad Fur Day,* many of those initial technical challenges were less of a problem. Still, it was a game which tried to top *Super Mario 64* in certain areas, and Chris Seavor pulls no punches in pointing them out. "The visuals… let's be honest, *Mario 64* had some ugly-looking assets in there," he notes, and it's fair to say that *Conker* came out ahead in this regard thanks to Rare's knowledge of the N64's hardware, and particularly its texturing quirks. The structure of the game was tweaked, too. "We also added more of a narrative to the world, driving the player forward not so much to get the next Star, but to see where the stories and characters lead you."

Still, Gregg is under no illusions as to how difficult it was to compete with such a groundbreaking game. "*Mario 64* got so many things right that it was hard for following games to make significant improvements," he opines. "Other games had more impressive visuals, used the performance of the hardware better and created worlds that had more depth, but few got close to matching things like *Mario*'s control."

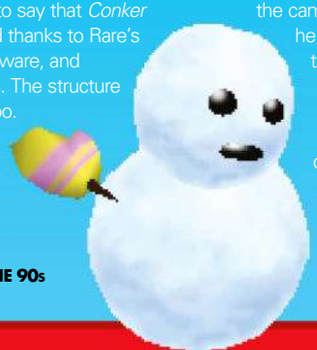
Over at Interactive Studios, the *Glover* team witnessed the same thing. "*Mario* set a high bar of quality to meet," says Andrew. "We were prototyping *Glover,* first on PC and then on an N64 dev kit, and we were getting great results that we were happy with. But suddenly, we were playing a huge game that had solved a few problems more elegantly than we had. For example, it had smoothed-skinned characters, unlike the hinged, segmented 3D characters that PlayStation and *Glover* had! We decided we had to ensure our characters looked just as smooth and had to work out how to make an animated skinned character renderer." That wasn't the only innovation the *Glover* team had to compete with. "We just spent ages trying to work out what the logic was for the camera so we could get somewhere close," he remarks. "Technically we figured out most things, as *Glover* demonstrates, but *Mario* was still obviously a better game."

With the developers telling us how far they went to match Nintendo's effort, it's clear that *Super Mario 64* had a huge impact, so we asked them to quantify it. For John, it was a game that accelerated the pace of progress in game development. "Nintendo solved the problems of third-person control in 3D videogames and presented the industry with a 'how to do it'," he says. "I think the industry would have figured it out eventually without Nintendo's help but *Mario 64* saved us probably five years worth of failed experiments and clunky controls."

For Andrew, it was nothing less than proof that polygon technology was actually viable. "It made everyone realise that 3D was the future, and not just of driving games, but all games! It looked so good, and gave some personality to the characters," he says. "The worlds were big and interesting and it immersed players in a deep fantasy world. Over on the PlayStation, it still felt that 3D was struggling and whilst technically impressive, the gameplay or graphics were generally suffering for the 3D experience. *Mario 64* showed the way forward for the whole industry!"

"It was the first of its kind and a genuine 'Wow Moment' in gaming that excited even the most jaded of people," says Gregg. "It was a combination of revolution combined with one of the most prominent and successful series of games," However, he also adds an important point: "It's also stood the test of time. Play *Mario 64* today and it's still got the ability to transform you into a playful child where just doing things without thought is great fun."

» [Nintendo 64] If the camera ever proved unhelpful, you could even utilise a Mario's-perspective camera view.



» [Nintendo 64] Mario's classic animations were transferred flawlessly into 3D, like this jumping motion.

If *Super Mario 64* had just been a technical achievement, we'd remember it as an important release. But *Super Mario 64* was always a supremely enjoyable game – and the decades that have passed since it released haven't dulled that in the slightest.

There were years when I didn't play it and when I got back into retro games I worried that it might not have aged well and I was hesitant to have another go at it," Mark confesses. "But I can happily report that even now, *Mario 64* is still one of the best and most fun games to play on any machine *ever*!" He's in no doubt as to why that is, too. "Nintendo spent as much time on the gameplay as they had done on the previous *Mario* titles but had added in this huge world that seemingly burst out of this little bit of plastic you just stuck in the top of your machine before you turned it on."

That's why *Super Mario 64* is still as relevant today as it has ever been. Its supreme gameplay is the reason that people are still playing today, years after most people nabbed that last Star and had a chat with Yoshi on top of the castle. But don't take our word for it. Dig out a copy of *Super Mario 64* and start up a new file. Spend a minute or two pottering around the castle to get a feel for how Mario controls before leaping into Bob-Omb Battlefield. We'd be surprised if those few minutes don't turn into hours – and years later, developers are still trying to make games that are so compelling.

» [Nintendo 64] Metal Mario: he's heavy, but pretty unlikely to try to murder John Connor.

LEAPS OF FAITH

Five games that made the jump to 3D in style...

METROID PRIME 2002

■ Many wondered how the exploration of *Metroid* could ever work in 3D, but Retro Studios came through with the perfect answer. Encapsulating *Metroid*'s sense of isolation and freedom, while being a showcase for the GameCube, it's one of the greatest examples of 2D-to-3D done right.

THE LEGEND OF ZELDA: OCARINA OF TIME 1998

■ Just as it had done with *Super Mario 64*, Nintendo embraced the third dimension when updating *Zelda* for a new generation. The game was imbued with a very real sense of verticality that helped make it absolutely jaw-dropping.

GRAND THEFT AUTO III 2001

■ Alongside *Super Mario 64* and *Ocarina Of Time*, *GTA III* was instrumental in establishing the template for modern 3D games, especially open-world titles. Minimal prelaunch fanfare only made its impact all the more incredible and it had a real sense of place and personality.

FINAL FANTASY VII 1997

■ A curious case study, as the move to 3D graphics actually had little impact on the gameplay formula. It did, however, allow for impressive cutscenes and a more cinematic feel – two things that both tied in beautifully to the greater storage capacity CDs had over cartridges.

METAL GEAR SOLID 1998

■ As with *FFVII*, the polygons of *MGS* allowed for a then-unprecedented level of cinematic presentation. Kojima and his team took this concept and ran with it, too – Snake's PlayStation sneaking mission is widely accepted to be the birthplace of modern cinematic gaming.

...and five that stumbled and fell into the depths of infamy

FADE TO BLACK 1995

■ Many would argue that *Flashback* never needed a sequel, and this oddity serves as evidence for the truth of that statement. Crude 3D visuals were a far cry from the mind-blowing original. It's redeemed somewhat by its decent character animation.

BUBSY 3D 1996

■ Famously one of the worst games ever made, this took the unlikable *Sonic* rip-off, dumped him into an ugly 3D world that looked to be made out of placeholder assets and left it at that. Random deaths and horrendous pop-in abound in this abhorrent waste of time and money.

EARTHWORM JIM 3D 1999

■ Handing the reins to an untested developer for something so difficult as making the jump from 2D to full 3D doesn't sound like the best of plans, as this effort proves. Bland environments were a departure from the colourful backdrops of the original and the camera had a mind of its own.

CASTLEVANIA 64 1999

■ One of the reasons people thought *Metroid* could never work in 3D was that *Castlevania* struggled to transition. Camera once again proved to be fatally flawed in early attempts at 3D vampire hunting, at odds with the pinpoint precision for which the series was known.

PRINCE OF PERSIA 3D 1999

■ While this 3D debut wasn't as dreadful as some efforts, its poor control and awkward animations were just made to look even worse thanks to how impressive these aspects had been in the original game. The camera was also horrible – a standard pitfall of 3D gaming.

GOLD

ENEYE

WE GATHERED TOGETHER KEY MEMBERS OF THE ORIGINAL SECRET AGENT DEVELOPMENT TEAM TO TALK ABOUT THE CREATION AND LEGACY OF THEIR SEMINAL N64 SHOOTER. PAUL DRURY SHAKES THE VODKA MARTINIS

Gamers knew the score back in the Nineties. Rare made platformers, you played first-person shooters on PC and any game based on a film was going to be awful. Then came *GoldenEye 007* and changed all that.

It was released two years after the film had hit the big screen, only a few months before the next entry in the franchise, *Tomorrow Never Dies*, came out, and with no great expectations of success, even from the team that had developed it. It went on to shift a staggering 8 million copies, making it the third biggest-selling title on Nintendo's 64-bit console, and invariably appears in the echelons of those perennial 'Best Ever Games' lists. It also made number ten in **Retro Gamer**'s definitive countdown in issue 150, in case you were wondering.

That success is perhaps even more remarkable when you consider that for the majority of the dev team, *GoldenEye* was their first professional title. Indeed, Tim and Chris Stamper, the heads of Rare, had to remind the team that "this wasn't their university project" as development dragged on for over three years. Yet the fact that most of the team were new to the business meant they weren't constrained with notions of what was and wasn't possible in game design. If they thought of a good idea, they tried to implement it.

This naivety yielded some groundbreaking results. The game pioneered body-specific hit reactions, disconnecting the gun from the camera, the use of a sniper rifle, environment mapping (look closely and you'll see low-res reflections of your surroundings on shiny surfaces) and even dual-wielding of weapons, all features which have become fixtures in the shooter landscape. More than that, *GoldenEye* proved that a story-driven FPS could work on consoles… and that deathmatches never really get old.

Speaking to the members of the team has been inspiring. Some stayed at Rare and worked on its spiritual sequel *Perfect Dark*. Some went on to set up Free Radical, the home of the *TimeSplitters* series. Some have stayed in games, others have moved on but all can agree on two things: being part of the *GoldenEye* team was an experience they will never forget… and playing as Oddjob in multiplayer is always cheating.

» [N64] Home console first-person shooters at the time were seen as tricky to pull off, but Rare managed to do it in style.

» [N64] *GoldenEye* has its fair share of explosions, and then some.

RARE'S TOP DOUBLE-O AGENTS

MARK EDMONDS

Director of photography

Favourite Bond film: *Skyfall*

Preferred multiplayer mode: Temple – Grenade launchers and Licence To Kill

MARTIN HOLLIS

Producer and director

Favourite Bond film: *From Russia With Love*

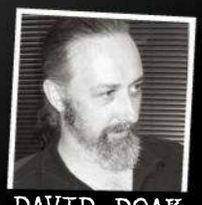
Preferred multiplayer mode: Archives – Licence To Kill

STEVE ELLIS

Second unit director

Favourite Bond film: *Casino Royale*

Preferred multiplayer mode: Temple – Golden Guns and Licence To Kill



DAVID DOAK

Original screenplay

Favourite Bond film: *Goldfinger*

Preferred multiplayer mode: Temple - One-shot kills

DUNCAN BOTWOOD

Production designer

Favourite Bond film: *On Her Majesty's Secret Service*

Preferred multiplayer mode: Archives – Pistols only, one-shot kills

Polishing GoldenEye

Mark Edmonds on developing a first-class FPS

For Mark Edmonds, his first contribution to the development of *GoldenEye* was sitting alone in a room in the Stamper mansion, filleting joints. "I didn't really know what I was working on," he explains, understandably. "I was asked to investigate creating filleted joints for an animated 3D character system; basically, a smooth skin over joints, like an elbow, rather than just having a solid block for an upper and lower arm. I had no idea it was connected to *James Bond* but I must have passed the test because I got moved over to the stable block and onto the team proper. It was great just to be working on my first videogame!"

Programmer Mark joined project leader Martin Hollis and artist Karl Hilton and the trio got to work on early builds of *GoldenEye*. Initially, the game was heavily influenced by Sega's *Virtua Cop* with Bond following a predetermined route through levels. "We were using this amazing new invention called the analogue stick to aim a crosshair," grins Mark. "But then we thought, 'Wouldn't it be cool to play a game like *Doom* with actual 3D graphics? That would be a new experience!' And we knew the Nintendo 64 was capable of rendering 3D graphics from any orientation or direction."

» [N64] The bars get flack for being intrusive, but having a dynamic HUD was unheard of at the time.

The team decided to take Bond 'off the rails', though knowing exactly what the N64 was capable of required a good deal of faith. Its development system used high-end Silicon Graphics machines, a pleasure to work with, if prone to overheating, whilst the specifications of Nintendo's forthcoming console were yet to be finalised. "I vaguely remember being disappointed seeing the tech demos running on the first development consoles," admits Mark. "But once our own artists got going onto the project, they managed to make the graphics look good!"

Mark beavered away on the *GoldenEye* engine, taking art created in such packages as Alias and GameGen and rendering them in-game. He helped develop the system which handled the motion-captured animations – pioneering in their day – and worked on the enemy AI, so your foes could at least attempt to outwit your agent before crumpling in agony when you shot them in the groin. Yet despite all these innovative features, the team really wasn't sure anyone else would be impressed.

"It was amazing to travel to the E3 show in 1997 but I don't remember much reaction to the game there," says Mark. "It probably wasn't the right environment for people to get into it. It was only afterwards when the reviews started coming that I realised people actually did like it."

» Mark dons a tuxedo at E3 in 1997.

"We were using this amazing new invention called the 'analogue stick'"

Mark Edmonds

Licence to leg it

Jetting around the world with Bond

Arkhangelsk Dam

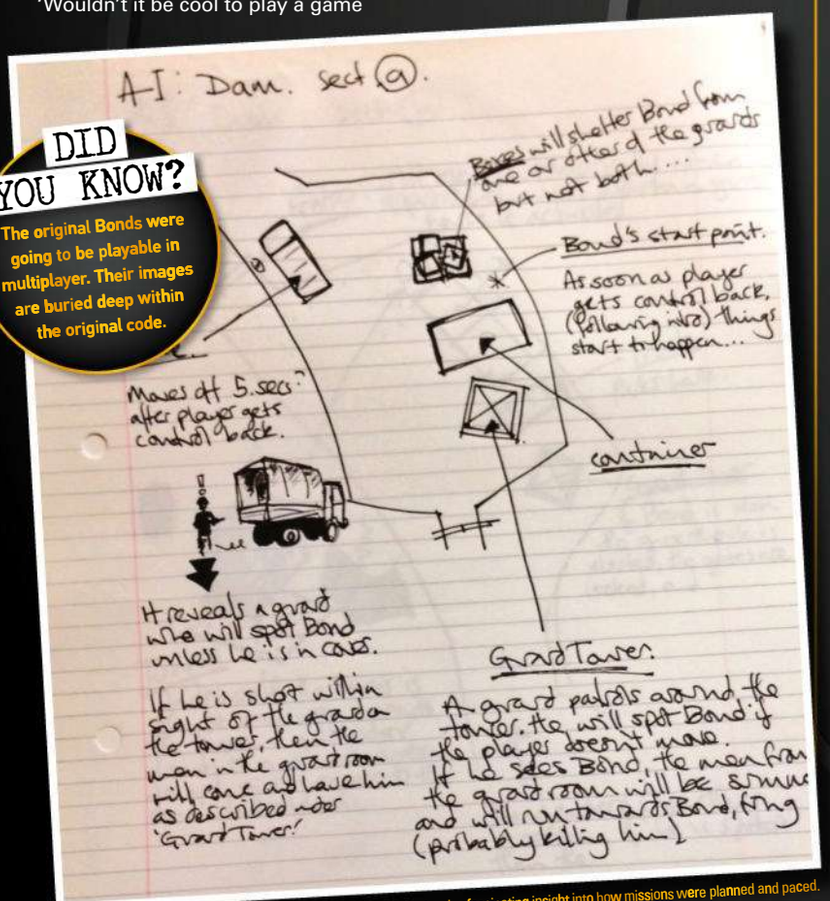
■ Your first mission takes at the Byelomorye dam. It's a heavily guarded location, but weapons like the sniper rifle make things easier.

Facility

■ Starting off in the bathrooms you have to make your way through the laboratories, and eventually the bottling room.

Runway

■ You need to escape in a plane, but first you need to fight through a platoon of soldiers. Good job you have access to a tank, eh?

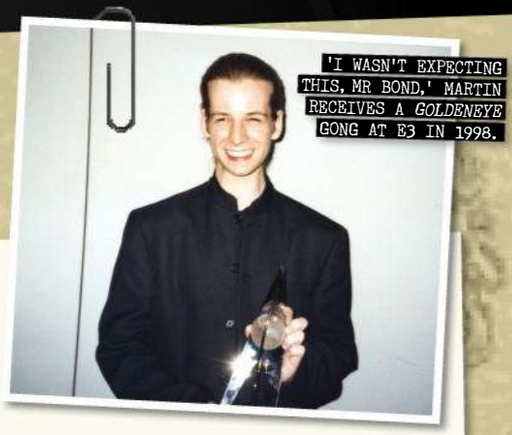

AI: Dam. sect @.
Bond's start point.
As soon as player gets control back, (following intro) things start to happen...
Moves off 5. secs after player gets control back.
container
It reveals a guard who will spot Bond unless he is in cover.
If he is shot within sight of the guards the tower, then the man in the guard room will come and have him as described under 'Guard Tower'.
Guard Tower.
A guard patrols around the tower. He will spot Bond if the player doesn't move. If he sees Bond the man from the guard room will be summoned and will run towards Bond, firing (probably killing him)

» Duncan's detailed level notes for the Dam level, a fascinating insight into how missions were planned and paced.

Did you know?

The original Bonds were going to be playable in multiplayer. Their images are buried deep within the original code.

RARE'S VERY OWN M



'I WASN'T EXPECTING THIS, MR BOND,' MARTIN RECEIVES A *GOLDENEYE* GONG AT E3 IN 1998.

MARTIN HOLLIS ON LEADING THE TEAM

What was your reaction to being told you were to head up a team making a *Bond* game?

Oh, I wasn't approached. I'd heard on the grapevine, from my team leader on *Killer Instinct*, Mark Betteridge, I think, that the *Bond* licence was floating around. A couple of guys from the *Donkey Kong Country* team were going down to a press party for the film *GoldenEye* and Nintendo had told its friends at Rare there was a possibility we could make a game to go with it. Later, I heard they weren't going to take on the licence, so I went straight to Tim Stamper and said I'd like to do it.

Was he delighted you had stepped up to the challenge?

He didn't look chuffed or anything. He just said, 'Well, you better make a document then, Martin.' So I did. And it was all my own work, teacher.

We've seen that 'Top Secret' document online and it's impressive how many of those ideas, from the variety of missions to the effect of bullets on the environment, made it into *GoldenEye*.

I never really looked at it after a while. Once we were 20 per cent in, we just concentrated on making the game, not what I'd written. It's astonishing how much from the document made it into the final game. That was partly luck.

It was also down to the team you put together. How did you go about recruiting people to the project?

Of course I wanted good people, enthusiastic about the *Bond* universe... though not all of them were. They were just incredibly good craftspeople. I actually made a list of everyone in the company involved with development and scored them out of ten. I wrote notes on the side, too, and I spoke to Simon Farmer in production about each one and he'd tell me, 'Oh, you don't want them...' He knew if they were suitable for the project.

You sound a bit like M from the Bond films, with a dossier on everyone.

Well, I did wear all black at the time and had a confident swagger. It's hard to know how they viewed me. I was the only one who had made a game professionally before. Rare tended to hire people not from the games industry.

Was there an advantage to this being their first game – that your team didn't know what they couldn't do?

Oh, certainly. I didn't know what we couldn't do, either. It was supposed to be a three-person project and take nine months or something. No one told me it would take three years and about ten people because no one knew.

Given it took so long to develop, were the Stamper brothers constantly harassing you to get it finished?

It's astonishing how little bother we got from them. They had the whole company to administer plus the financial agreement meant *GoldenEye* was a low-risk project for Rare. And they might have been a little bit frightened of me. Why? I was extremely self-assured. That's putting it nicely. The Stampers created the environment, they hired the people I could pick from, we never had to worry about the project being cancelled or being forced in a different direction and we had their trust. Their role was huge.

Didn't Nintendo, worried about the violence that took place in the game, ask you to put in cutscenes at the end of each level, showing everyone who had been killed getting up and shaking hands?

Yes, and I know when you read that it seems ridiculous but you have to look deeper at feedback like that. It was all about the close up killing. You could see the pain and suffering – they'd get down on their knees and then you'd shoot them again in the head. It felt personal. Unsurprisingly, this didn't sit well with Nintendo. I was trying to negotiate a line between being true to *Bond* and Nintendo's family-friendly brand. We did soften some things round the edge – I think we dialled down the redness of the blood by 20 per cent.

Were you pleased you literally stuck to your guns?

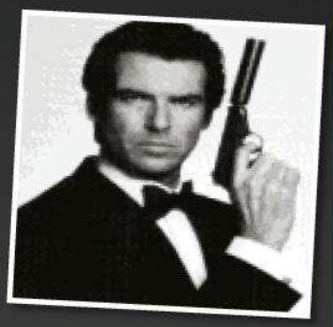
Many people at Rare, Nintendo and the world in general have been incredibly nice to me, for decades! *GoldenEye* is such a good thing to have on your CV and was such a pleasure to make.

MARTIN CHECKS HIS OUTFIT BACKSTAGE AT E3 IN 1997.

WE'VE LOST COUNT OF THE HOURS WE'VE WASTED PLAYING *GOLDENEYE*'S MULTIPLAYER.

Heroes And Villains

MEET THE CAST OF GOLDENEYE



JAMES BOND

■ *GoldenEye*'s protagonist is tasked with preventing Janus from firing the *GoldenEye* satellite. Pierce Brosman plays the iconic role and would do for a further three films.

NATALYA SIMONOVA

■ This programmer ends up accompanying Bond on several missions after they encounter each other as prisoners. Izabella Scorupco depicts her in the film.

ALEC TREVELYAN

■ You first meet 006 during the second mission but see him executed by Colonel Ourumov. Bond soon discovers he's survived and is Janus. He's played by Sean Bean.

XENIA ONATOPP

■ Mercenary Xenia is incredibly dangerous and likes to kill men by squeezing them to death between her thighs. In the film she's played by Famke Janssen.

GENERAL ARKADY OURUMOV

■ The rogue Russian general is a thorn in Bond's side for most of the Arkhangelsk missions. He's played by Gottfried John.

BORIS GRISHENKO

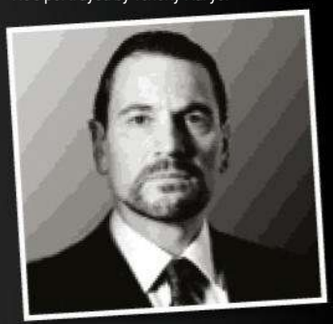
■ "Invincible" computer hacker Boris trips an alarm in Bond's first encounter with him and then pulls a gun on the secret agent. He's played by Alan Cumming.

VALENTIN ZUKOVSKY

■ This Russian gangster helps James Bond out in a couple of levels, as he doesn't want Janus muscling in on his territory. He's played in the movie by Robbie Coltrane.

DMITRI MISHKIN

■ Mishkin captures Bond and takes him to the Archives level. He eventually admits that he knows Bond isn't a traitor and helps him. He's portrayed by Tchéky Karyo.



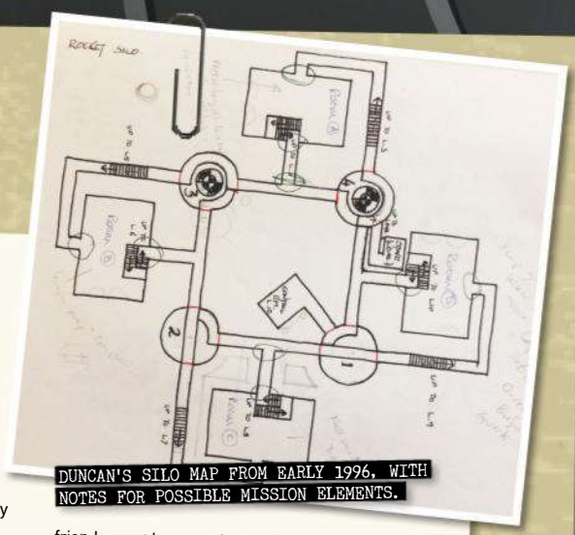
ON HER MAJESTY'S MO-CAP SERVICE

DUNCAN BOTWOOD ON FALLING OVER A LOT

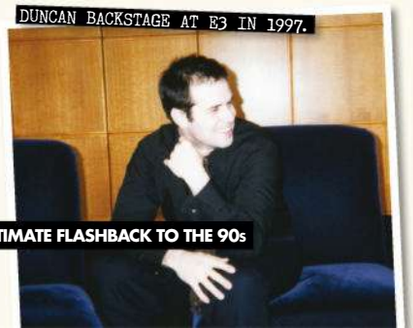
"I often say, 'I died a thousand times for *GoldenEye 007*,'" says Duncan Botwood, whose dedication to making the game the best it could be involved physical as well as mental strength. On top of his role as game designer, shaping mission structure as well as the layout of levels, he became the reference model for the various agonising reactions when enemies took a hit. "Motion Capture data was good at picking up very human movements like flinching, and you could easily tell the difference between me throwing myself on the floor versus me being pushed to the floor. So I had to stand in position with my eyes shut so I didn't flinch, and B [Jones] would walk quietly up to me and shove me hard to make me fall over. Multiply that by eight per position because of covering all the angles and you get a full coverage of animations... and bruises."

Duncan, who stayed at Rare until the end of the Noughties and now works for Ubisoft in Canada, assures us it was worth the pain. "I'm sure *GoldenEye* has opened doors for me, though my favourite part has been people coming up to me at work saying they played it at college with their friends, or at home with their family, and loved it. It's great to know that people had such a positive experience and I never tire of hearing it."

He also mentions he specifically designed the Egyptian temple to have high ceilings because he liked using the grenade launcher trajectories to bounce grenades off the top of doors he was running through to take out people chasing him. Now there's a tip for your next deathmatch, folks!



DUNCAN'S SILO MAP FROM EARLY 1996, WITH NOTES FOR POSSIBLE MISSION ELEMENTS.



DUNCAN BACKSTAGE AT E3 IN 1997.

Behind the iron curtain

WRITER DAVID DOAK ON GOLDENEYE'S LEVEL DESIGN

David Doak smiles rather proudly when we ask him about the legacy of his innovative work on mission design and enemy AI for *GoldenEye*. "My favourite moment was meeting the original Valve guys at ECTS, a UK trade show, in 1998 and them joking that *GoldenEye* had forced them to redo a bunch of stuff on *Half-Life*. They went on to do all right."

When David joined the team in late 1995, plenty of the basic gameplay was in place. The controls were responsive, the core loop of 'encounter enemy, shoot them, move to next' worked efficiently and the audio and visuals gave solid feedback. "The obvious issue was that levels were fairly barebones," he explains. "They had been constructed to test gameplay, though even at this stage, there were innovative features which staked out the ambitions for the game, like the alarm system in Severnaya Bunker. It could be triggered by a guard who ran to press a big red button or set off by the cameras 'seeing' Bond. The FPS paradigm of the day was *Doom*, which had you shooting monsters and collecting coloured keys to open doors and we really wanted to step away from that."

» [N64] You can cause all sorts of wanton destruction and if you're lucky, you might damage someone, too.

Though David acknowledges that at its most basic, this involved reskinning the 'keycard' concept with decoders, covert modems and all manner of gadgetry, he was determined to vary the pace and rhythm of levels. "Severnaya Bunker 1 has a lovely, juicy density to it," he enthuses, "a very simple, small space but, particularly on higher difficulties, there is a lot to do with juggling objectives, alarms and enemies. The Bunker 2 cell escape was pleasing to set up; the stealth came together well and was something that felt fresh, in a pre-*Metal Gear Solid* and *Thief* world. And obviously, Facility is a continuing source of chuckles that Dr Doak is in there…"

> **"Severnaya Bunker 1 has a lovely, juicy density to it"**
> David Doak

» David showboats on his own work at E3 in 1997.

LICENCE TO LEG IT

JETTING AROUND THE WORLD WITH BOND

SEVERNAYA SURFACE 1

■ This tough level requires Bond to make his way into a satellite control bunker. It's tricky as there's lots of open ground and very little cover.

BUNKER 1

■ You're still stuck in Siberia and have to navigate this underground base. Fortunately it's still being built and not heavily armed.

SURFACE 2

■ The eighth stage sees you returning to Severnaya and it's a tough one. It's hard to see where you are and there are guards everywhere.

BUNKER 2

■ You start this stage holed up in jail next to Natalaya. This is a tough stage as you need to keep her safe whilst retrieving several items.

» [N64] *GoldenEye* isn't just about killing enemies. Some levels require you to bug things. And also require you to kill enemies…

Yes, David makes a prominent cameo as the scientist/secret agent, though most of the team are featured somewhere in the game, whether as the faces of nameless guards or doing silly turns on computer monitors. Despite being satisfied with the variety of mission goals and interesting level design the team achieved, David is the first to admit not everything they tried quite came off. "Some level setups were exercises in damage limitation. For the more open levels like Runway and Depot, it was hard to construct meaningful gameplay and the results are patchy. And the Escort missions seemed like a good idea at the time. I mean, what could possibly be more fun than having your performance judged on whether Natalya would randomly throw her head in the path of a bullet or walk into an explosion?"

Notwithstanding a few misfires, the story mode was groundbreaking in offering the player choices. Should you go in with all golden guns blazing or use your license to kill sparingly? Guards could be sneaked past but how satisfying it proved to take out goons with a flurry of headshots. The way your foes responded to your actions and the surprising, sometimes exasperating, interventions of NPCs all created the sense that this was a living, bleeding world.

"Refining the AI was largely a process of brokering deals with Mark Edmonds," says David. "I'd make my case that a feature would allow me to script a more interesting setup, Mark would shake his head, explain how it wasn't possible then go back to his desk and do some coding wizardry to make it happen. Legend."

MULTIPLAYER MADNESS

STEVE ELLIS ON MURDERING YOUR FRIENDS

Had *GoldenEye*'s multiplayer modes always been on the 'wish list' of features?

To be honest, I don't remember discussing multiplayer before we started doing it. We'd been too busy making the rest of the game! It wasn't until something like April 1997 that work actually started on it, and it progressed incredibly quickly by today's standards. Because it came so late in development, we had already finished work on the animation so we had to make do without any animation for moving while crouching. There just wasn't time to do anything about that.

Was multiplayer prompted by you and the team playing *Bomberman* or *Doom* deathmatches together?

I don't think we ever played multiplayer *Doom* because we didn't have any PCs, but we certainly spent a lot of time playing *Bomberman* at lunchtimes and we also had an early, unfinished version of *Mario Kart 64*. It was more that the things which would be good seemed obvious to us, and we just got on with doing them and playing the game every day to see what was working and what wasn't.

EVERYONE MAKES A BEELINE FOR THE GOLDEN GUN IN MULTIPLAYER BUT JAMES BOND GOT TO IT FIRST.

How did you go about turning an almost complete single-player game into a multiplayer one?

I had to introduce the concept of a 'player' into the game and gather all of the player's properties – their position, direction, health, ammo, animations and hundreds of others – into one place and then go through all of the tens of thousands of lines of code and make sure that anything that accessed player data was aware that there might be more than one player in the game. Hundreds, possibly thousands, of now-invalid assumptions had to be fixed, one by one. And because the game had been coded in C, which doesn't encourage programmers to be as structured as they would be with C++, the code had been written in a fairly freeform way with bits and pieces of data scattered all over the codebase.

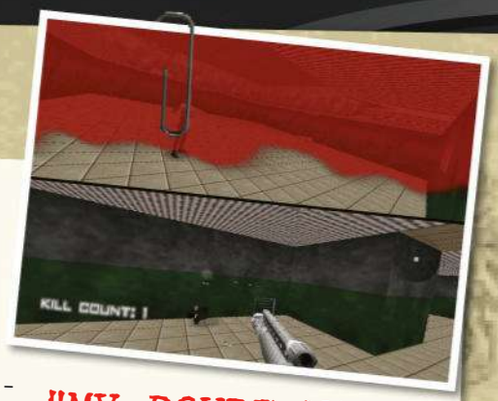
It sounds a mammoth task.

We didn't know whether it would work when we started. My biggest doubt was whether it could work at an acceptable framerate. If it was going to be rendering up to four times as many triangles, maybe it would run at a quarter of the frame rate and be unplayable? The only way to find out was to do it, and of course some of the levels weren't available in multiplayer for those exact reasons, but luckily, a good number of them performed well enough that it was worth continuing.

Didn't you keep everything multiplayer secret from the Stamper brothers?

I wasn't under instructions to frantically switch to another window if Chris Stamper entered the building, but then we didn't tend to see much of him so it would have been easy to keep it quiet without trying. I can't remember exactly when Martin told them about it, but it was well after the proof-of-concept stage. Obviously, I was proud of what we'd achieved and Chris's reaction to good work was always positive.

DUNCAN BOTWOOD'S MAP OF SEVERNAYA EXTERIOR, CIRCA 1996. THE BLUE INDICATES GUARD PATROL ROUTES.



> "MY DOUBT WAS WHETHER IT COULD WORK AT AN ACCEPTABLE FRAMERATE"
>
> Steve Ellis

Didn't Chris worry that multiplayer wouldn't be fun because you can see where your opponents are?

I never thought split-screen would have that kind of problem because if you're spending time looking at the other screens, you're probably not looking at your own enough to stay alive. I do remember arguing with Karl Hilton about the radars. He hated them so eventually I added a cheat to allow players to switch them off. It said something like 'Happy now, Karl?' when you activated it.

Multiplayer wasn't all you worked on, of course.

Growing up, I'd spent a long time doing assembly language programming on the Spectrum and later the Amiga, so I did a lot of low-level programming and optimisation for *GoldenEye* like texture mapping, RSP Microcode and demand-paged virtual memory, which simulates having more RAM than you actually do have by fetching things into memory only when they're needed. Sorry to get technical. I worked on visual effects like explosions, smoke and bullet holes and added the hidden Spectrum emulator. Lots of other stuff.

How important was multiplayer to the success of *GoldenEye*?

I think it challenged some people's assumptions about how fun split-screen multiplayer could be and I think it got a lot of attention for that. Without it, I don't think we'd be talking so much about the game over 20 years later.

Huge thanks to all the team for their time and to Graeme Norgate, Duncan Botwood and Karl Hilton for use of their photos and artwork.

DID YOU KNOW?

GoldenEye features a ZX Spectrum emulator and ten games, buried deep within the code. You can access it with a N64 emulator and the relevant patch.

LICENCE TO LEG IT

JETTING AROUND THE WORLD WITH BOND

CUBA

JUNGLE

■ You've been shot down by a missile and must escape this guard-infested jungle. You'll also have to watch out for Xenia Onatopp.

CONTROL

■ This mission has you leading Natalaya to a computer so she can hack it. You'll come under fire once she starts, so protect her.

CAVERNS

■ Here you navigate lots of identical looking caves and finding security cards to open otherwise impenetrable doors. Not fun.

CRADLE

■ The final stage features another time limit and has you trying to stop Trevelyan from realigning the GoldenEye satellite.

SHOOT TO KILL

OUR OWN PERSONAL PICKS FROM Q'S LAB

SNIPER RIFLE

■ It's certainly not the easiest gun to use, but it does have amazing range, allowing you to kill from a safe distance, without fear of being shot.

AUTOMATIC SHOTGUN

■ You'll need to get close, which isn't ideal, but the reward is a powerful blast that will turn your opponent's insides into mincemeat.

ROCKET LAUNCHER

■ The great thing about this piece of metal is that you don't need to be super-accurate. Just make sure to get them in the blast radius.

REMOTE/ PROXIMITY MINE

■ Perfect for those levels that have lots of annoying nooks. Plant a couple and wait for your opponent's swears of frustration.

GOLDEN GUN

■ It's only available in the story mode via cheats, but it was available to use in multiplier mode. It's highly coveted because it can kill with a single shot.

KF7 SOVIET

■ This is possibly one of the most balanced weapons in the game, with good ammo, decent range and plenty of stopping power.

KLOBB

■ Named after Nintendo's Ken Lobb, this wonderfully pathetic piece of hardware is only really worth using when paired. It's such an iconic gun we had to include it.

RC-P90

■ This weapon has everything – great penetration, an insane magazine capacity and extremely good damage. It also fires ridiculously fast.

DD44 DOSTOVEI

■ It's not quite as accurate as the PP7, but it does carry more bullets and we all know that it's bullets that kill people.

MILITARY LASER

■ This laser has no ammo limitations, making it extremely useful in a gunfight. It also boasts fantastic stopping power and looks cool.

GRENADE

■ You have to be quite skilled at throwing them, but the splash damage caused by lobbing a well-timed grenade should not be underestimated. Lob them and run.

COUGAR MAGNUM

■ Accuracy is massively impaired but the stopping power on this thing will halt a rhino. Plus it makes you feel like you're Clint Eastwood, which is nice.

FLASHBACK

TWILIGHT OF THE ARCADES

COIN-OPS DICTATED VIDEOGAME TRENDS IN THE NINETIES UNTIL COST-REDUCED VERSIONS OF THEIR TECH FOUND THEIR WAY INTO CONSOLES. DESPITE THIS COUP, ARCADE GAMES STILL SAW THE DECADE OUT IN STYLE

WORDS BY RORY MILNE

» [Arcade] Lightgun games weren't only attractive and intuitive to play, they showed that arcades were the place to go for innovative experiences.

You might imagine that the most popular coin-ops of the Nineties would have much in common with those of the late Eighties, but this theory only holds true to a point. Shoot-'em-ups were big business in 1989, but by 1990 they were fading fast, with Tecmo's *Raiden* being pretty much the Nineties' only hit coin-op shooter. However, the same year, Sega's *Super Monaco GP* and Namco's *Final Lap* proved that arcade racers were still popular. Coin-op beat-'em-ups prospered in 1990 too, most notably Konami's *Teenage Mutant Ninja Turtles* and Capcom's *Final Fight*.

The following year saw the release of another arcade fighting game that was nothing short of a phenomenon. *Street Fighter II* was not only the highest-grossing coin-op of 1991, but it repeated that feat in 1992 and 1993. Capcom's colourful one-on-one brawler was a must-play coin-op that was best played in two-player mode. Its roster of flamboyant fighters and their distinct fighting styles was a major draw, as was the array of different moves made possible by the coin-op's six attack buttons. Perhaps most important to its success, though, was that you could string moves together into highly effective combos.

1992 also saw Konami knocking *Street Fighter II* off the top of the US arcade charts for six months with its side-scrolling brawler *X-Men,* and Midway threatened its dominance, too, with its ultraviolent digitised fighter *Mortal Kombat*. Konami then employed the same digitised approach with its arcade lightgun hit *Lethal Enforcers*, and in 1993, Midway did likewise with its over-the-top basketball coin-op *NBA Jam*. It's hard to understate just how insanely profitable Midway's two-vs-two version of the popular sport was, but the fact that its earnings during its first year were over $1 billion goes part way to explaining the scale of its financial success.

No matter how ingenious coin-op artists had been with digitised sprites throughout 1993, this all started to change towards the end of the year. Polygonal graphics had been experimented with by coin-op designers as far back as the early Eighties, but in October 1993, the release of Namco's *Ridge Racer* and Sega's *Virtua Fighter* all but made 2D arcade racing and fighting games redundant. *Ridge Racer* raised the bar for realistic 3D graphics with texture mapping. *Virtua Fighter* couldn't make the same claim, but it did prove that fighters could work in three dimensions.

Building on this success, polygon coin-ops from Sega and Namco dominated arcades throughout 1994 and 1995, with exceptions, such as Rare's brawler *Killer Instinct*, which used sprites created from rendered 3D models. For Sega's part, it took on *Ridge Racer* with two very different racers: the speedway title *Daytona USA* and *Sega Rally Championship*. Not satisfied with taking Namco's racing crown, Sega made a claim for the hottest lightgun games with *Virtua Cop* and *Virtua Cop 2*. Namco then responded with its gun-shooter hit, *Time Crisis* and its *Virtua Fighter* killer, *Tekken 2*.

Based on the quality of gameplay and technical prowess of coin-op games going into 1996, arcades should have been guaranteed many more profitable years. But this assumption doesn't account for the Western launch of the 3D-capable Sony PlayStation

© Getty; Adobe Stock

» [Arcade] Fighting games like *Tekken* and *Street Fighter* ignited the scene from the early Nineties.

ARCADE ACES

MUST PLAY COIN-OPS FROM THE NINETIES

STREET FIGHTER II

The main attraction of *Street Fighter II* is its compelling two-player offering, where the challenge for both players is to master the unique fighting styles and special moves of the game's eclectic combatants. Battles are greatly enhanced by a combo system, which lets you pull off devastating sequences of attacks.

NBA JAM

Not only does *NBA Jam* ignore most of the rules of basketball but it also defies the laws of physics! Its player characters are depicted using digitised sprites of real players, capable of superhumanly high jumps and dunks. The game's insanely excited commentator adds to the fun and encourages you to show off.

VIRTUA FIGHTER

Although hailed at its release for being the first beat-'em-up with fighters rendered using 3D polygons, *Virtua Fighter* innovated with its combat as much as its visuals. Instead of having completely unrealistic or superhuman attacks, Sega's brawler features exaggerated versions of real-world techniques.

DAYTONA USA

Arguably the defining polygon racer of the Nineties, *Daytona* nails the sensation of driving at insane speeds and introduces now-standard racing game features, such as your car spinning out, flipping over and getting damaged in collisions. Sega's speedway title is also notable for races that feature an impressive number of rivals.

TIME CRISIS

The ingenious duck-and-cover system in *Time Crisis* elevates it far above its contemporaries. Utilising a foot pedal, you can toggle between taking down enemies in an attack mode and retreating behind cover to reload. Although a seemingly trivial feature, it adds a layer of strategy to Namco's lightgun title.

» [Arcade] The 3D graphics on offer in *Virtua Racing* had to be seen to be believed, and were solely an arcade-only experience.

» [Arcade] Sega's *House Of The Dead* was an attractive machine, thanks to its promise of gore-and-gunplay action.

console in the autumn of 1995 and the subsequent sales of it and its rival, the Sega Saturn, in the run-up to that Christmas. In 1996 and 1997, you could play popular beat-'em-ups such as Capcom's *X-Men Vs Street Fighter* and *Tekken 3* in arcades, their downfall being that a year later they were converted almost perfectly for the two consoles, the latter to Sony's and the former to Sega's.

What happened in the late Nineties was a fight back by coin-op firms. They tried to tempt players back into arcades by offering them experiences that couldn't easily or inexpensively be matched at home. Sega's *The House Of The Dead* came with a massive screen and two lightguns, and its rhythm game *Samba De Amigo* incorporated maracas. Konami went one step further with *Dance Dance Revolution*, by basing its controls on players' performances on a miniature dance floor. In the West, these efforts did little to stop the arcade's decline, although, in Japan, the country's game centres survived considerably longer.

Given that it was the Nineties when arcades died out, at least in the West, it would be tempting to downplay the importance of coin-op videogames during the decade. The golden age of arcade games was in the Eighties, after all, but that's not to say that arcade gaming somehow diminished in the Nineties. On the contrary, Nineties coin-ops had better visuals and often surpassed the gameplay found in arcade games of the previous decade, so perhaps the Nineties should be remembered as a halcyon era of arcade excellence, where fighting and racing coin-ops, in particular, reached their creative zenith. ✱

» *Daytona USA* was a popular choice for arcade operators, thanks to its multiplayer configurations and high-speed thrills.

Hardware Heaven

Essential Game

SoulCalibur

The sequel to *Soul Blade* had been an excellent arcade fighting game, but it wasn't arcade perfect on the Dreamcast – it was *better.* The astonishing visuals really showed off what the console could do, and that was just the start of its charms. The game featured a wide variety of unlockable characters, stages and costumes earned through the Missions Mode, and Cervantes De Leon returned from the first game. It was one of the few Dreamcast games to sell a million copies, and quite rightly, too – if you like 3D fighting games, *SoulCalibur* is an essential addition to your collection.

Dreamcast fact

■ Despite the Dreamcast's discontinuation in 2001, software support lasted much longer – Sega's last release arrived in 2004, the last official third-party release was in 2007 and unofficial releases continue today.

RAM: 16MB MAIN, 8MB VIDEO, 2MB AUDIO
PROCESSOR: HITACHI SH4 (200 MHZ)
GRAPHICS: NEC POWER VR 2 (3 MILLION POLYGONS PER SECOND)
AUDIO: 32-BIT YAMAHA AICA (64 CHANNEL ADPCM/MIDI)
OPERATING SYSTEM: 2MB DREAMCAST BIOS ROM / MICROSOFT WINDOWS CE
GRAPHICS: GD-ROM (1GB CAPACITY, 12X SPEED)

Dreamcast

» **MANUFACTURER:** Sega » **YEAR:** 1998 » **COST:** £199 (launch), £70`+ (today)

If your back's up against the wall you need to pull off something spectacular, and in hardware terms, Sega pulled that off with its successor to the Saturn. The Dreamcast was everything its failed predecessor hadn't been – the sleek white box was aesthetically pleasing, the internal hardware was both powerful and easy to develop for, and the price was attractive. For PAL gamers, the capability to output a 60Hz signal brought an end to years of second-rate releases. Multiplayer fans were well catered for, too, with four controller ports and a built-in modem for online gaming (so long as you were willing to pay the phone bill for dial-up access). Thanks to its past woes, Sega didn't have the financial ability to drop the console's price when it desperately needed to. This was compounded by a lack of third-party support, the impending launch of the PlayStation 2 and the discovery of an exploit which allowed easy piracy without a mod chip. Dreamcast production ended in March 2001, and Sega left the console hardware market. Machines are relatively easy to find today, though certain faults are pretty common including random resets caused by power supply problems, and controller port malfunctions due to faulty resistors.

METAL GEAR SOLID

THE IMPACT OF METAL GEAR SOLID

KONAMI'S METAL GEAR SOLID INFILTRATED THE PLAYSTATION IN 1998, POPULARISING A GENRE WITH ITS BLEND OF TACTICAL ESPIONAGE ACTION AND CINEMATIC STORYTELLING. FROM CLONED BROTHERS AND CYBORG NINJAS TO EXCLAMATION MARKS AND CARDBOARD BOXES, RETRO GAMER DECODES THE MULTITUDE OF WAYS THAT HIDEO KOJIMA'S GAME LEFT ITS ENDURING FOOTPRINT IN THE SNOW ON THE GAMES INDUSTRY

WORDS BY ADAM BARNES

FRANCOIS COULON

» Francois was a creative director at Ubisoft and worked on *Splinter Cell*. He has also created visual effects for Sony's *Angry Birds* movies.

ANTONIO FREYRE

» Antonio has made several games inspired by *Metal Gear Solid* and is currently working on a new project called *As Time Surrenders*.

At the risk of giving the game an inflated messianic significance, it's impossible to think back on a time when *Metal Gear Solid* didn't exist. There is the now and the time before Snake – and no in-between. But that's the interesting thing, for most who reside in the gaming world, *Metal Gear Solid* was kind of a sudden divine bolt of lightning from out of nowhere.

The Western world hadn't really seen much of Hideo Kojima up until that point, what with a lot of his projects sidelined onto doomed consoles or stuck without localised versions for years. Even the earlier *Metal Gear* games kind of just passed much of the world by without too much attention, and then, one day in 1997, everything changed. While footage of *Metal Gear Solid* had already been shown at the Tokyo Game Show back in 1996 and earlier, it wasn't until E3 the following year that gamers really got a glimpse of what would go on to be one of the PlayStation's defining games. And from that point on, the hype was tangible.

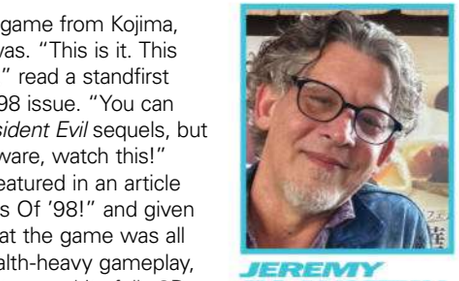
"One thing you have to remember is that the first time the world saw this trailer, it was not just on some little TVs at the Konami booth," says Richard Ham, who was the design lead on the PlayStation's *Syphon Filter*. "This was on a gigantic jumbotron screen that towered over everything, I think it was the first time anything like that had ever happened at E3. And as I recall, every hour they would play that trailer, and for the entire convention, this would become like appointment viewing – there'd be a huge crowd and so everyone would come and sit and watch. One thing I remember is being surrounded by a bunch of grizzled hardcore veterans screaming and whooping and hollering [as they] couldn't believe what they were seeing." The massive excitement surrounding that trailer even took Kojima by surprise and naturally led Konami to push particularly hard on marketing *MGS* by the time it was released in 1998.

Over 12 million demo discs made it to players, so there was huge anticipation around what might well have felt like a debut game from Kojima, however inaccurate that was. "This is it. This is the surprise hit of 1998," read a standfirst within *CVG*'s February 1998 issue. "You can have your *Tekken* and *Resident Evil* sequels, but if you're after original software, watch this!"

> "THE FIRST TRAILER WAS SHOWN ON A GIGANTIC JUMBOTRON SCREEN THAT TOWERED OVER EVERYTHING, I THINK IT WAS THE FIRST TIME ANYTHING LIKE THAT HAD EVER HAPPENED AT E3"
>
> **RICHARD HAM**

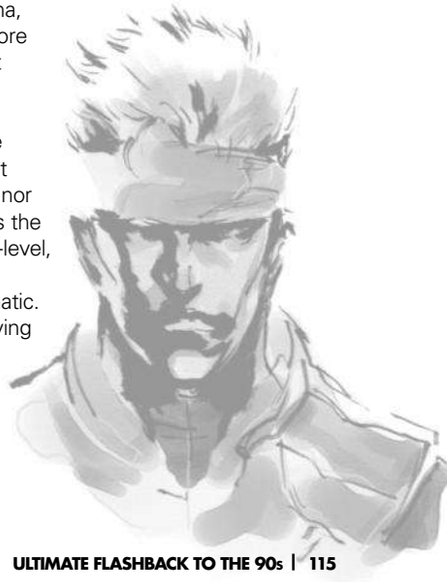
Metal Gear Solid was featured in an article looking at the "Hot Games Of '98!" and given a detailed rundown of what the game was all about, focusing on its stealth-heavy gameplay, the high-tech espionage story and its fully 3D environment. Curiously, the article also drew close attention to its cinematic qualities. "When playing the game you could be mistaken that you're watching a movie," it read. "That's because the project's director, Hideo Kojima, actually wanted to be a movie director before he got interested in games. This is evident when you see the movement of all the characters and how enemies react."

Even before the game was released, the thing that stood out for most people wasn't just the 'thinking man's shooter' gameplay nor the top-tier 3D graphics, but instead, it was the presentation and narrative. "It was so next-level, so many interesting camera angles for everything," says Richard. "It felt so cinematic. Cinematic gameplay is something I was trying very, very hard to achieve with *Syphon Filter*, with camera locks and being a fan of John Woo and action cinema." *Syphon Filter*, in the end, offered a "radically different kind of ▶



JEREMY BLAUSTEIN

» Jeremy has worked on a number of *Metal Gear* games, including *Metal Gear Solid 2: Sons Of Liberty*.



METAL GEAR SOLID

experience" than *Metal Gear Solid*, but that trailer for all its clever presentation and glamour was concerning for Richard and the team at Bend Studios. "I was despairing," he says. "It looked like they were doing everything that we were trying to do, better."

No one could deny that Kojima's love of movies had an important impact on the way he directed his games, but to overlook the pacing of the game would be discrediting the famed creator – who these days gets some unfair treatment from gamers for his almost bookish attention to replicating a film-like experience in his modern games. But back on the original PlayStation, a game that was like a movie was something to strive for and that was something that *Metal Gear Solid* provided in a way no other game had before.

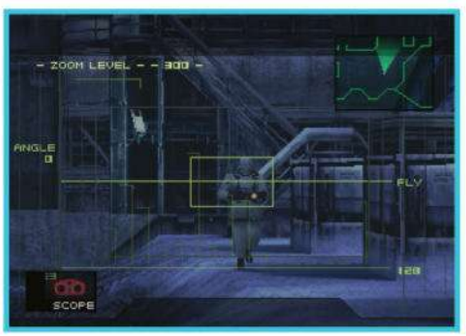
"In 1998, many people in the industry were talking about the convergence between movies and videogames," says Francois Coulon, who was the creative director of *Splinter Cell*. "Probably because, at that time, videogames were somehow jealous of the movie industry, feeling unfair not to be seen and perceived as an art as the movie industry could be. For a creative person, trying to get videogames out of its cultural niche, seeing a sci-fi or heroic fantasy character in a two-minute-long, high-res cinematic before playing him as a ten-pixel high character for hours sounded totally wrong."

When *Final Fantasy VII* was released on the PlayStation the year earlier, many had claimed that this was the best that videogames could look, but then the FMVs would end and you'd go right back to characters with cubic hands and three-pronged spikes for hair. *Metal Gear Solid* didn't have that separation: everything that was shown in a cutscene was then playable in the next gameplay moment, and while the game might not have aged particularly well in the visuals department, it helped to build that immersion – that cinematic experience – by never separating those two distinct parts of the game. "When you started *MGS*, you were launching a consistent visual experience," says Francois, "with the opening cinematic played from the engine, with the same resolution as the game, in an almost realistic setting." Francois adds that it wasn't just about being consistent with the graphics, however, because *MGS* transitioned from cutscene to gameplay without loading screens, visual swaps or cues to let the player know that the gameplay was coming. The player was always playing. "Going further into the game, it provided a fully action movie-like experience. "Think of the sequence with the jeep in the tunnel, for example. This was going much further than all previous action games. And that was totally inspiring."

Nowadays, videogames are all agog about that 'fully immersive' experience, and never taking the player 'out of the game'. For some, exposition and narrative are some of the biggest ways of doing that. Ironically, Kojima's approach to cutscenes grew to become outdated as developers learnt how to tell stories without ever wresting control from the player, but transitioning from quieter moments of character dialogue to full-blown gunfights with minimal separation between storytime and gameplay was arguably one of *Metal Gear Solid*'s biggest innovations. Even the long, highly wrought explanations that accompanied each cutscene felt novel and it drew everyone in, gamers and developers alike.

Naturally, all of these attempts to ape cinema would be for nothing if there wasn't a story worth telling, and in that sense, *Metal Gear Solid*

> "IN 1998, MANY PEOPLE IN THE INDUSTRY WERE TALKING ABOUT THE CONVERGENCE BETWEEN MOVIE AND VIDEOGAMES"
> FRANCOIS COULON



» [PlayStation] Each new area means pausing for a moment to observe the challenges you'll face, monitor patrols and look for items.

» [PlayStation] "Colonel, what's a Russian gunship doing here?" It's a simple, innocuous line, but it has a strong effect on kickstarting Snake's espionage adventure.

» [PlayStation] Those moments of tension as you'd wait for a patrol to pass hoping you wouldn't be spotted were excellently executed.

» [PlayStation] That *brrrinnkk* exclamation mark became one of gaming's most iconic sound effects, not least because of the sheer panic that followed.

really stood out among the crowd. The industry was still trying to figure out strong narratives for a videogame, and while the PlayStation had already had some flashes of brilliance in this regard, *MGS* was on a whole new level. "I think the story itself is a very simple one," says Jeremy Blaustein, who had worked on the original *MGS* as a translator at Konami. "Save the girl and save the day. It's a classic spy story or an adventure story." And he's not wrong, the tale itself is not so complicated: a hardened war veteran is sent behind enemy lines without any sanctions to single-handedly stop a nuclear launch, it's the plot of practically every Eighties action movie.

It was the multiple layers to the story that made it enthralling, the unravelling of secrets and the way the distinct characters interacted.

"I think that the characters are very interesting, and that is one of the most compelling aspects of it," adds Jeremy. "I tried to give each character a unique voice and point of view after seeing how much Mr Kojima had worked to do the same thing in Japanese."

Even as the series rolled on, memories of those more iconic conversations – the Master Miller reveal, for example – are tied to the overall experience of playing *Metal Gear Solid*, in part because it was a first-time meeting of these unique personalities, in part because of the piecemeal answering of hidden agendas and mysteries, but also very much because of their quippy dialogue and professional voice acting. In fact, voice-over was just not a common practice at that point in time, less so to the standard that Konami put into the game. David Hayter became iconic as the voice of Solid Snake, and from there one of the PlayStation's most recognisable characters. "I always viewed Solid Snake as an antihero," says Jeremy. "That's why, in my mind, the choice to make him sound like Clint Eastwood was obvious. I wanted him raspy and tired of war, and someone burned out. In my mind, the Clint Eastwood character fit the bill exactly."

For all this talk of battle-weariness and nuclear war, however, let's not forget that this was very much a game with a sense of humour. If there was a dramatic DARPA Chief death, it was countered by an equally tongue-in-cheek retort (and accommodating camera focus) about Meryl's behind. "The characters are very cartoonish, in a fun way," says Jeremy, "but the setting is very realistic. It was my feeling that a realistic setting was necessary in order to maintain the feeling of authenticity that would allow for such cartoonish characters to be accepted without being laughed at."

Genetically modified soldiers, nanomachines, cloaking devices, cybernetic ninjas and of course a stomping nuclear mech were just some of the far-flung sci-fi that *Metal Gear Solid* touched on, and that's nothing considering the route that the series took in the long ▶

» [PlayStation] Kojima is famed for hiding little tricks and Easter eggs, such as tricking the wolf pups into peeing on your box so you can use it to pass through the cave safely.

METAL GEAR SOLID

» [PlayStation] Even at the time *Metal Gear Solid*'s drawn-out moments of exposition felt like a drag, but the story was so engulfing it was worth it.

REMARKABLE INNOVATIONS

HOW METAL GEAR SOLID STOOD APART FROM ITS PEERS

EVERYTHING IN-ENGINE

■ Throughout the Nineties as games began to explore what 3D could do, a mix of pre-rendered video clips and static-camera moments were the only way to do exposition and narrative beats. *Metal Gear Solid* did everything within its engine so there was no separation, which meant a more immersive way of presenting the narrative during play.

LAYERED DETECTION

■ *Metal Gear Solid* released the same year as *Thief: The Dark Project*, *Tenchu: Stealth Assassins* and *Commandos: Behind Enemy Lines*, each handling stealth in their own pioneering ways. *Metal Gear Solid* had a more detail-orientated approach, such as detection through footprints, stepping into puddles and showing your breath in the cold Alaskan air.

CODEC

■ Being that Snake was a lone infiltrator, Kojima needed a way to provide exposition and game direction without any in-map NPCs to interact with. Thus the Codec was born, an in-ear communication tool that has since led to equivalent one-way communication means that guide the player around any modern game.

PROFESSIONAL VOICE ACTING

■ For the most part, VA in gaming was either in line with the original *Resident Evil*'s in terms of quality, or non-existent. *MGS* certainly wasn't the first game with high-quality voice acting, but consistent quality with an engrossing narrative proved just how important good quality voice acting was cinematic videogames.

META GAMEPLAY

■ Breaking the fourth wall with certain gameplay elements – in particular the Psycho Mantis fight – had a memorable impact on the player's experience. Few games have included such meta gameplay elements, but it has been perhaps the most innovative aspect of Kojima's work over the years.

▶ term. But all of it tied into fairly level-headed metaphors, and Kojima had things to say about war, its impact on society and even its effects at an individual human level. "Do you think love can bloom even on the battlefield?" Dr Hal 'Otacon' Emmerich once posed to Snake in the game. It's a memetic line and one that drew attention for its cheesiness, but it's a good example of the varied threads that Kojima wanted to pull on with this cast of characters.

It all added richness to the story, and that's even before discussing the more supernatural elements: a wolf-mother sniper, a shamanistic raven-father toting a Gatling gun, a telepath with a gas mask, all of it rounded out by a fistfight to the death between two cloned super soldiers. Read a string of words like that and you'd be forgiven for snorting at *MGS*, but its presentation, its cinematic narrative and the deftness with which the game handled its brevity directly alongside its more poignant topics made it one of the most compelling games on the PlayStation. "Another thing that I really do think is incredibly important about *Metal Gear* is its absolutely odd, quirky sense of humour," says Richard. "It's the thing that they kept doubling down on that pretty much nobody else does. It's just fundamentally *weird* that a cardboard box is your most powerful weapon in the game, that's just *strange*, but they don't care. They lean into it, they find the funny, and it's just an oddball mix of stuff."

» [PlayStation] The guards might not have been the most attentive in the world, but they were utilised with a lot of variety.

» [PlayStation] The CODEC was a great way of getting sudden bursts of narrative, or just for helping you if you were lost about where to go or what to do.

» [PlayStation] Each boss fight was unique and built with a specific solution in mind. Everything was designed around it for the encounter.

> "I TRIED TO GIVE EACH CHARACTER A UNIQUE VOICE AND POINT OF VIEW AFTER SEEING HOW MUCH MR KOJIMA HAD WORKED TO DO THE SAME THING IN JAPANESE"
>
> **JEREMY BLAUSTEIN**

How many games can say they have universally changed the appreciation of the humble cardboard box? It might be ridiculous to think of the world's most famous infiltrator hiding in a cardboard box, but it perhaps highlights *Metal Gear* at its best, just as Richard suggests. It's all very silly, at the heart of it, portrayed through an oh-so-sincere lens, so the idea of a cardboard box being the greatest asset for a sneaking mission just makes sense. The box became so iconic that it evolved just as much as the series did, while countless memes surfaced around it and the team at Konami found fun ways to include knowing in-jokes as the series grew over the years. But the gameplay wasn't all military-grade packing solutions.

"Most people would say the story or setpieces [are the most inspiring parts of *MGS*], which I also love, but it is the refinement of the stealth gameplay that really sticks with me," says Antonio Freyre, an indie developer who is inspired by the *Metal Gear* series. "No other game has been able to get to that quality and elegant simplicity that the *MGS* games can do."

Certainly as far as stealth gameplay goes, *Metal Gear Solid* is not overly complicated: watch the minimap, avoid those cones of vision and if you get spotted go and hide under a truck until everyone completely forgets you were there. It's a permissive game: the Game Over screen ("SNAAAKE!") simply drops you right back at the start of the room where you entered, there's no traipsing back from your last save point or having to repeat a half-hour of gameplay. But there are layers to it: footprints in the snow or the sounds of your steps on resonant floors could give you away, smoking can help you spot infrared tripwires and there's usually plenty of things to crawl under and hide. At the time, players were astounded by the ability to rap on walls to intentionally draw a guard's attention, luring them from their patrol routes to allow Snake to knock them out – or simply bypass them from a different perspective.

"The first time I saw *Metal Gear Solid* was at a Blockbuster," adds Antonio. "They had the demo to play in the store. I didn't understand English back then so I had no clue what to do. I was stuck and couldn't get past the [starting] Cavern area. Every time we went to Blockbuster, I'd try it again. I was captivated by this strange game where I had to hide."

For the first time, players were asked to *not* fire a weapon and instead use their wits to make it through a level. It was a completely new experience for many, not least since the earlier *Metal Gear* games ▶

STEALTHY BEDMATES

THE GAMES THAT SNAKE'S CAPERS INFLUENCED

SPLINTER CELL

■ While there were no direct elements taken from *Metal Gear Solid* into *Splinter Cell*, Kojima's work was an influence on Francois Coulon in his approach to directing the Ubisoft stealth series. Following the same desire for a cinematic experience and keeping the player in-game was critical.

UNDETECTED

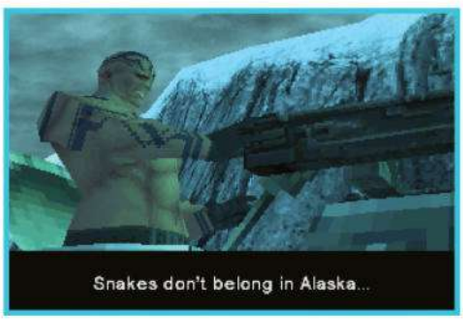
■ One of Antonio Freyre's games, *Undetected* wears its *Metal Gear Solid* inspiration on its sleeve from its top-down camera perspective to item picks-up and character movement. That's not to say that it's a game without its own interesting ideas or elements, of course, but fans of Kojima's work will want to check this out.

UNMETAL

■ While the art style is more in line with the original *Metal Gear* games rather than the 3D *Solid* versions, *UnMetal* plays with the *MGS* approach to stealth in novel ways – such as being able to craft together seemingly random items for otherwise powerful gadgets. It's a game with a sense of humour, too, an important part of the *MGS* experience.

had passed most by. "*MGS* showed us how stealth mechanics should be done," says Francois, who points to the "clear rules" provided to the player to know what is happening in the game. "It is a complete and consistent set of rules that set the way for any stealth game," he adds. "Remove one of its elements and the experience will be dull, frustrating or ridiculous. *MGS* was perfectly executed in that regard. No frustration – you know when you lose and don't blame the game for it."

That's not to say there weren't moments of action, too. The pacing of *Metal Gear Solid* is something that gets overlooked, but with all those Codec calls and quiet monitoring of patrol patterns, there was sense to add in setpiece battles. By 1998, the idea of a boss fight was already a long-worn concept, but even here *Metal Gear Solid* made sure to find new ways to keep these things fresh. The most obvious is the fight with Psycho Mantis, where players could swap the controller to the second port to avoid the mind-controlling capabilities of the creepy psychowarrior, but practically all of *Metal Gear Solid*'s boss battles are memorable. Learning that bullets won't win the day against the Cyborg Ninja, a first-person sniper battle in a snowstorm with Sniper Wolf or even going mano-a-mano with a flipping Metal Gear REX are just some of those stellar showdowns that *Metal Gear Solid* conjured up, and they only ramped up with inventiveness with each new release.



» [PlayStation] Even the unique members of FOXHOUND, which were really only there as boss encounters, had a lot of individual personality about them.

Ultimately, *Metal Gear Solid* was the game that put Kojima on the map, catapulting him to auteur status in a way that no other game director has been. Even now it feels like a game with a personality, with a strict vision of what it is, what it wants to do and how it wants to do it. And while Kojima has since stepped away from the series, it has defined his creative endeavours. "If the series has been so iconic for so long, it is because all the games were brilliant!" says Francois. "How many game series have been able to succeed over the years without slowly decreasing and repeating itself?"

Francois points to Kojima's game design, his vision and a team able to execute it all to perfection as the reasons for the series' adoration. "It is hard for me to measure the impact of Mr Kojima alone vs Kojima and his team but, to be honest, it is not important. A creative lead in this industry is someone who can convey his vision to other team members so that they can bring something to the creative table. I don't know how Mr Kojima is managing his teams but the result speaks for itself!"

Only a handful of games have had the cultural impact that *Metal Gear Solid* generated. It became one of the PlayStation's most important releases, it snuck Tactical Espionage Action into a trigger-happy industry and it justified the relevance of gaming as something more than throwaway fun. If there was doubt, *Metal Gear Solid* proved gaming could be about so much more than squishing goombas and blasting cyberdemons and could, in fact, compete with cinema. ✱

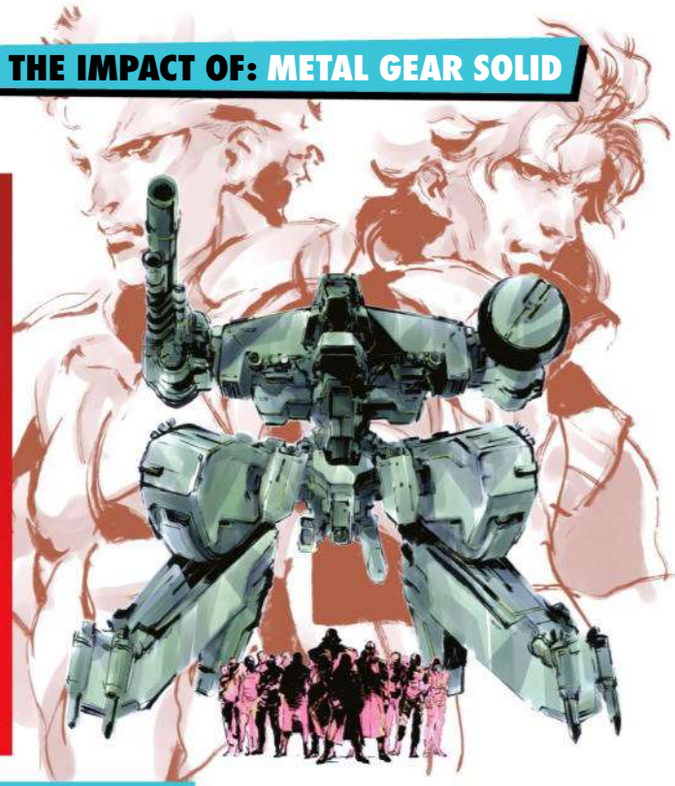
> "NO OTHER GAME HAS BEEN ABLE TO GET TO THAT QUALITY AND ELEGANT SIMPLICITY IN STEALTH THAT THE MGS GAMES CAN DO"
>
> **ANTONIO FREYRE**

AS TIME SURRENDERS

■ The latest project from Antonio Freyre takes more influence from *Snake Eater* and *Ground Zeroes* than the original, but it's set in the same universe as *Undetected* and offers a decidedly more bleak vibe than Kojima's work. It's early on in development, but it's an exciting one for *Metal Gear Solid* players to keep an eye on.

SYPHON FILTER

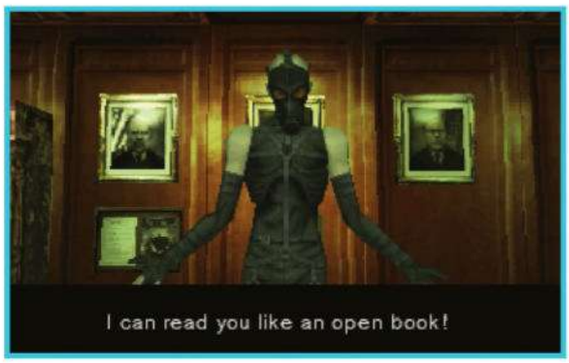
■ Development of *Syphon Filter* occurred simultaneously and completely independently to *Metal Gear Solid*, but insider info meant Richard Ham and Bend Studios could work to distance itself from Konami's game and ultimately come up with something better, more refined and more distinct than it might've been otherwise.



» [PlayStation] Each new area means pausing for a moment to observe the challenges you'll face, monitor patrols and look for items.

» [PlayStation] In this moment, you'll hear a lot of creepy mutterings to create a vibe. Those are actually the names of train stations in Tokyo.

» [PlayStation] Everyone has their personal favourite boss fight, but this one against Cyborg Ninja is S-tier in part thanks to the voice acting and writing.



» [PlayStation] Psycho Mantis had a lot of neat tricks, but the controller swapping remains one of the most inventive, meta gameplay moments in gaming to this day.

THE LEGEND OF
ZELDA
OCARINA OF TIME

Link's first Nintendo 64 adventure is often seen as one of the franchise's highest points. An epic quest spanning two eras, featuring unforgettable allies, antagonists and awesome setpieces, it's hard to ignore the brilliance of this ambitious adventure that stands the test of time

WORDS BY STUART HUNT

When all is said and done, a great game is measured simply by the journey you've taken – that moment when you reflect on the hours you've invested and ask yourself, 'Was it really worth it?' The best titles across videogaming have all provided us with memorable adventures we've enjoyed taking a commanding role in, adventures where we felt a strange polarised sense of melancholy and pleasure at seeing the credits roll, enjoyed paying a revisit to once or twice, and have provided us with memories we will carry with us forever.

The fact that *Ocarina Of Time* is a game bursting at the seams with memorable moments all wrapped up inside one epic adventure makes it not only one of the best *Legend Of Zelda* games, but also one of the greatest videogames of all time. It's a game that takes you on a perfect adventure, one that anyone of any age can relate to: you're the hero, you scale the castle, defeat the villain and in doing all of that, restore peace to the land and become the stuff of legend.

While there can be no question that the original *Legend Of Zelda* was a watershed moment for videogames, and *Ocarina* owes it a sincere debt of thanks for putting the core pieces in place, it was merely a small portion, a compromise if you like, of what series creator Shigeru Miyamoto had actually envisioned for Link, Zelda, Ganon and the land of Hyrule. Since *Ocarina*'s release, *Zelda*'s creator has revealed that *Ocarina Of Time* marks his true original vision of the world – it is the land of Hyrule he imagined, finally brought to life.

Back in 1986, when that first game in the series was released, technical constraints meant Miyamoto could only project the core themes of *Zelda* on the screen – staples such as the three central characters, the Triforce, Hyrule, the sense of freedom, and of course, the dungeons. And as early as its first sequel, it was clear Miyamoto was beginning to think more about how, having smashed the pegs into the ground, he could start erecting his true image for Hyrule using the modest powers of the NES.

Zelda II: The Adventure Of Link, while widely branded as the 'black sheep' of the series, shares several similarities with the franchise's golden calf. The sequel added side-on platform sections that transported gamers into the heart of Hyrule, with this new viewpoint used to create village sections filled with people with which Link could interact and converse with during his quest. Not only would this help to breathe a greater sense of life and immersion into the world, but also a greater sense of responsibility on the shoulders of the player, too.

The first sequel also had a stronger emphasis on action. Link could now cast spells (in *Ocarina Of Time,* Link can do the same, and a new magic meter enables the hooded hero to perform special charge attacks) and earn experience points to improve his attacks. While this levelling up mechanic was dropped, this aspect of character development still played a big part in *Ocarina Of Time*'s design – just now it was done by the far more interesting means of acquiring new gadgets, items, additional heart containers and better weapons during the quest.

But while Ocarina appears to take lessons from *The Adventure Of Link*, the game also borrows a number of popular ideas and themes from other sequels, too. The ocarinas, for example, which play a big part in helping you progress in the story, made their first appearance in the Game Boy game *Link's Awakening*, while *A Link To The Past*'s dark and light realms also returned, with Link ageing seven years in the game to see the devastating effect Ganondorf's rule has had on the kingdom of Hyrule.

Ocarina Of Time was first unveiled at Nintendo's Space World event in December 1995. Shown to a floor of astonished and excited attendees, Nintendo announced that the game would be ready in time to become a launch game for its successor to the Super Nintendo, the Nintendo 64. But with the launch just a year away, that projection proved a little ambitious. *Ocarina Of Time* didn't actually appear until the end of November, two years after the launch of the N64 in Japan, following a string of delays.

Designed on a heavily altered version of the Super *Mario 64* engine, *Ocarina*'s creation was handled by Nintendo EAD, with different parts of its creation overseen by various teams headed up by different directors. Each team focused on areas such as scripting and story scenarios, Link's actions and camera controls, and coming up with the various items for the player to use in the game. As the development progressed, further teams were added, overseeing aspects such as sound and special effects in the game. Finally, Kensuke Tanabe, writer on *A Link To The Past*, returned once again to pen the script for the game based on a story idea that had been hatched by Shigeru Miyamoto and Yoshiaki Koizumi.

Working as producer and supervisor, Miyamoto oversaw the overall production of the game, giving ideas to the directors to develop and also it was his responsibility to see that all the individual components came together. Once *Super Mario 64* was released in 1996, Miyamoto was able to concentrate on *Zelda* to help the teams complete the game. When the project started, the developers working on the game numbered ▶

» The music in the game was composed by Koji Kondo, who was responsible for creating the music in all of the main *Zelda* games.

» As the title implies, Ocarinas play an essential part in the story. Throughout his quest Link learns new songs that he must play to solve puzzles.

» Aiming your weapons became a precise task, using the Nintendo 64's then-sophisticated controller to fine-tune your shots.

» The original plan was for *Ocarina* to be entirely first-person. While this idea was dropped, the perspective was kept for looking and aiming.

around 15; by the time it neared completion, this number had swelled to an impressive (for the time, at least) 50.

The larger development team helped, of course, however, several inescapable issues delayed *Zelda*'s first Nintendo 64 release. As well as its development moving across to the 64DD at one stage (with the plan to make it a launch game for the N64 disk-drive add-on), when thinking of how best to fully immerse the player in Hyrule like never before, Miyamoto had originally wanted the game to play out entirely in first-person. This idea, however, was dropped after it was decided that during the game the player would control Link both as a boy and then as an adult, and the idea would have lost much of its impact if Link remained out of sight for the majority of the adventure. Surprisingly, the game's memorable story was actually incorporated and finalised at the latter stages of the game's design.

In keeping with the focus on immersion and displaying the land of Hyrule in the best possible way, it was Miyamoto's intention that the camera in the game had a spotlight on Hyrule rather than Link and his actions. This decision made logical sense in the adventure game setting. In *Mario 64*, players benefited greatly from having fluid and clear sight over Mario at all times, helping them to get accustomed to his new abilities and negotiate platform sections in a new 3D space. It was decided that such requirements were not necessary for a *Zelda* game.

"When the project started, the developers working on the game numbered around 15; by the time it neared completion, this number had swelled to 50"

Since the release of *The Legend Of Zelda,* Miyamoto had wanted to make players feel as if they were really inside Hyrule. With the N64 giving him the power to do this, Miyamoto and his teams thought about how best to make the player feel fully immersed in its world. And, in finding their answer, they came up with another of *Ocarina Of Time*'s best aspects: the controls.

To say the controls in *Ocarina* are attuned perfectly to the game world better than any 3D game that has come before or since is no exaggeration. Making full use of the crazy number of buttons on the Nintendo 64's unique controller, Link was able to effortlessly navigate Hyrule. Simple but very effective inclusions made the game instantly accessible to all – such as having Link jump automatically whenever he was steered off the edge of a platform (considerately saving you the obvious job), and a context-sensitive A button which could be used to make Link wave his sword around, open doors, move objects, climb platforms, and converse with Hyrule's many memorable characters.

Similarly, using items and viewing the world was made a breeze thanks to the clever use of the controller's yellow C (camera) buttons. In third-person mode, items could be assigned to them to enable easy and immediate access during the game, while in first-person mode the same buttons offered total control over the game's camera to help you get your bearings and offer precision aiming for weapons such

» Link makes friends with Malon and Epona, and in the future, the grown-up steed becomes an invaluable ally for our hero.

as the slingshot and boomerang. Combat, like everything else in *Ocarina Of Time*, was also made incredibly simple thanks to an innovative new combat system the game introduced that was called 'Z-targeting'. An automatic aiming mechanic for Link's projectile weapons, it has since become a combat staple in videogames and has been used in many games across many different genres and franchises.

In addition to the game's obliging control scheme, players were also aided on their quest by a fairy helper called Navi. Acting as your guide throughout the adventure, and never away from Link's side, she would point out points of interest during the game as well as offer useful hints and suggestions to help you complete puzzles.

Every aspect of *Ocarina* felt well-considered; it was like the game was trying its hardest to make your stay in Hyrule as pleasurable as possible, so that you'd tell all of your friends to pay it a visit, or maybe even decide to return to it yourself.

The story of *Ocarina Of Time* is set before the events of the first four games in the series, and sticks to the traditional *Zelda* template. Link must venture into a series of dungeons, find a desired object and then make his escape by defeating a boss. However, *Ocarina*, like *A Link To The Past* before it, is split into two distinct sections. The first, which is set in a vibrant-looking depiction of Hyrule, sees Link as a young boy, under orders from Princess Zelda to retrieve three Spiritual Stones that will grant him access to the Sacred Realm where the Triforce is kept. Simply getting to this point can take players a good amount of time – especially if they embark on many of the sidequests – but this is less than halfway through the adventure. Upon unsealing the Sacred Realm, Ganondorf pilfers the Triforce and Link is sealed away and must work out how to escape.

It is once you reach this point that events take a dramatic turn. Seven years pass, and when Link awakens, he is met by one of seven sages whose job is to protect the Triforce. Now a young adult, Link learns that Ganondorf has used the Triforce to cast the kingdom of Hyrule into darkness. Hope now rests with Link reawakening five dormant sages, by travelling to five temples in Hyrule to defeat Ganondorf's monsters and break his evil spell. If he succeeds, the sages can trap Ganondorf inside the Sacred Realm and restore the kingdom of Hyrule to its original state.

The moment that Link steps outside and sees the effects Ganondorf's reign has had on Hyrule – sapping it of all life, colour and beauty and turning it into a dark, depressing, shrivelled-up shell of its former self – is one of *Ocarina Of Time*'s many rug-pulling moments. Future

» Pesky Dekus required precise shield blocking to overcome.

TIME FLIES

We relive some of our favourite moments from Ocarina Of Time

Kokiri Forest

YOU START THE game in Kokiri Forest, and can spent ages exploring it before venturing out into Hyrule Field. Acting almost as a training dungeon, Link has to retrieve both a sword and the Deku Shield to be granted an audience with The Great Deku Tree. When both objects are retrieved, Link then enters the tree and embarks on his first dungeon. Once complete, the tree warns Link of Ganondorf, rewards him with the first spiritual stone and tells him to speak with princess Zelda.

Hyrule Field

MANY *ZELDA* FANS remember the first time they set foot onto Hyrule Field in the game as being a special and defining moment in gaming. The point at which *Ocarina* really starts to reveal its size and majesty, the field acts as a hub stage and is surrounded by various different areas, all populated by the different creatures that populate Hyrule. When you make your way to Hyrule Castle and the sunlight in the sky fades, you cannot help but feel both impressed and captivated.

Taming Epona

NAVIGATING HYRULE FIELD by foot is fine to begin with but later on you'll be covering a lot of ground; it's a good idea to pay a stop at Lon Lon Ranch located near the centre of the field. Visiting there as a child, Link meets Malon, who teaches him to play Epona's song on his ocarina. When he returns as an adult, and learns that Ganondorf has handed the ranch to devious range hand Ingo, Link uses the song to tame Epona and bust her out. She then becomes his companion across Hyrule Field.

Meeting The Princess

AFTER AN UNNECESSARY *Metal Gear Solid*-style stealth section, in which Link must avoid the glare of the guards as they patrol the grounds of Hyrule Castle, the child hero finally catches up with Princess Zelda. Their encounters always memorable, she tells Link that she fears that Ganondorf is seeking the Triforce to rule over Hyrule, and so she asks him to retrieve the remaining two spiritual stones and get to its before he does. And Link does just that. Well, she is the princess after all. How can we say no?

Lord Jabu-Jabu

THERE ARE SOME imaginative and brilliantly designed dungeons in *Ocarina* but none more quirky than the belly of Lord Jabu-Jabu. One of the game's trickier dungeons to complete, it sees Link getting swallowed by the giant, sacred whale-like creature after giving him an offering of fish, and then having to travel through his extremely large stomach to find Ruto, the princess of the Zora race, and retrieve the final spiritual stone together.

Using the Ocarina

MUSIC PLAYS A big part in *Ocarina*, as is to be expected from a game with a musical instrument in the title. Not only is the audio in the game dynamic, quickly changing depending on what's happening, but its characters and many areas are also given their own unique motif, too. Music also has a significant part to play in the quest and story, thanks to the eponymous ocarinas. Acquiring his first ocarina from Saria when he leaves Koriki Forest, Link continually learns new songs to aid him on his quest – tunes to open doors, befriend people, even for summoning help.

Becoming Adult

THE SNES SEQUEL *A Link To The Past* was the first game to introduce the dual-realm mechanic to the series. Proving so popular, it was then reintroduced in *Ocarina*. When Link enters the Sacred Realm his concentration is distracted by the Master Sword, allowing Ganondorf to seize the Triforce. When Link awakens seven years later, he's an adult, and Hyrule has been cast into darkness and despair as a result of Ganondorf's abuse of the powerful relic. Link is given a startling glimpse of what the future holds should he fail in his quest.

GAME-CHANGER

It wasn't just about being a 3D Zelda; these elements helped elevate Ocarina Of Time to be one of the greatest games of all time

Enemy targeting

ATTACKING ENEMIES IN a 3D space was always a little cumbersome in early action-adventure games. Or at least, it was until *Ocarina Of Time* arrived with its ingenious lock-on system. A staple of the genre today, it allowed the player to intuitively snap the camera to an enemy, giving Link the freedom to circle and strafe around monsters without losing the ability to follow up and dish out attacks. Where would we be today without such an important game system?

Platforming excellence

SUPER MARIO 64 is a classic, a showcase for the brilliance of Nintendo in the Nineties. But it also showcased some of the pitfalls of navigation in a 3D space. As *Ocarina Of Time* and *Super Mario 64* were developed in tandem, it gave the team plenty of time to make adjustments and tweaks to the controls and camera, ultimately ensuring that – by the time *Ocarina Of Time* was released – it handled far more confidently in the tight dungeon enclosures.

Context-sensitive actions

WITH SO MANY actions available to the player – many of which were new to gaming – Nintendo simplified the control system to ensure play was as smooth as possible. Context-sensitive actions enabled multiple tasks to be assigned to one button, cutting the fuss of learning too many controls and guiding the player around its environments. It let Link adventure without worry, only being given the option to move boxes or climb when it was necessary.

Dungeon design

THE TEMPLES IN *Ocarina Of Time* are a marvel of 3D design and execution, with each offering challenge and reward to players ready to push their understanding of the combat and platforming mechanics. Even the Water Temple, largely considered to be the toughest challenge in the game and a notorious headache even today, has proven itself to be a masterclass in spatial awareness, demonstrating a willingness to challenge convention and take risks in every area of game design.

Sprawling overworld

ONE OF THE ingenious aspects of *Zelda* games was the inclusion of an overworld, a hub that linked all levels, dungeons and areas together. This was expanded for *Ocarina Of Time* to a space large enough to make you feel like you were a small part of the world around you. If you could see it, you could reach it – even if that meant searching out specific items and returning later.

Hyrule looks ashen; the walking dead replace the fizzy townsfolk, and Kokiri Forest is overgrown and defiled – no longer a safe haven for Link, but the perfect place for evil to thrive.

It's an effective plot device that shows the hero an important glimpse at what his future will be should he fail to put things right. In *Ocarina Of Time*, the effect is used just as evocatively, spurring the player on to complete their quest and put things right. Indeed, paying a return visit to many of the familiar locations around Hyrule at this point kicks up a number of surprises for Link and the player. Lon Lon Ranch, the stables where Link finds and (once an adult) wins his trusty horse Epona, is now under new ownership. Walking through its tall gates expecting to find a friendly face, Link learns that its original proprietors, Talon and his daughter Malon, have been mercilessly booted out of their home by Ganondorf, and its ownership has now been handed to Talon's deceitful stablehand, Ingo. This and many other changes for the worse you learn about quickly add mounting weight to the quest, as you see not only the important but also the personal effects of your actions.

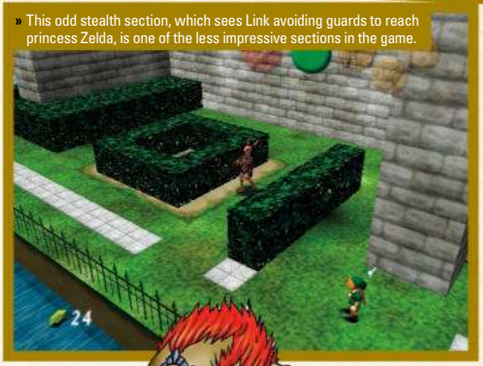
> "Every aspect of Ocarina felt well-considered; it was like the game was trying its hardest to make your stay in Hyrule as pleasurable as possible"

With its numerous delays, an almost-switch of platform, and also taking that sometimes tricky step up to 3D, it would be fair to say that *Ocarina Of Time* exceeded almost everybody's expectations, achieving incredible reviews. Nintendo not only appeased long-standing fans of its popular franchise by delivering a brand-new 3D *Zelda* game to surpass the lofty eminence of its 16-bit masterpiece *A Link To The Past*, but also managed to attract a whole new audience to the franchise by delivering one of the greatest adventure games to ever see release. Garnering high acclaim and rave review scores across the board, and making history by scoring the first ever 40/40 in *Weekly Famitsu*, the only other game sequels to have ever had the same kind of impact are perhaps *Street Fighter II* and Nintendo's very own *Super Mario 64*.

If we want to be incredibly picky, we'd say that there are some weaker aspects of *Ocarina Of Time* that don't live up to the majesty displayed elsewhere, and which leave it looking and feeling dated today. For example, it's not made explicitly or subtly clear where you should be going, and there are sections that only open up to you on the completion of baffling criteria – such as cleansing a room entirely of bats, or having two

» Each ocarina tune you learn impacts the world in a meaningful way, a mechanic that was replicated in *The Wind Waker*.

» This odd stealth section, which sees Link avoiding guards to reach princess Zelda, is one of the less impressive sections in the game.



▲Extended adventuring

THROUGHOUT HIS QUEST, Link will acquire and collect different items and weapons that greatly expand the adventure. Many introduced new abilities, with Nintendo gradually introducing them through well-masked tutorials in the guise of puzzle-solving before letting you loose with them in boss battles and, eventually, the overworld to access new areas. It has proven to be a staple of *Zelda* design, not to mention a process carried across into various other genres and game types.

Heartfelt narrative

UNLIKE MOST OTHER Nintendo games released at the time – in which mechanics took precedence over all else – *Ocarina* had the story at its centre. While joyful to play, it had a dark undertone of loss and tragedy. Link's journey across timelines, to stop a disaster he inadvertently had a hand in creating, has proven to be one of gaming's greatest.

Boss design

BOSS DESIGN IN *The Legend Of Zelda* has always been fairly simple: find the flashing bit of the enemy and hit it with whatever new item has just been gifted to you. That's okay though because *Ocarina* masked this with memorable and striking encounters. *Zelda* bosses made a wonderful transition into 3D, always looking large enough to make the task ahead seem implausibly difficult, with impossibly-tight mechanics making it seem ultimately achievable.

conversations with the same character in quick succession. Don't even get us started with the swimming mechanics or the legendary frustration of its slow-motion Water Temple. However, its beautiful 3D world, fluid controls, masterful game design and incredible pacing make it as perfect a game as you could probably ever hope to play.

That its influence and popularity can still be felt to this day is a mark of its impact and legacy. Having already been remade twice before, first with *Ocarina Of Time: Master Quest* for GameCube in 2003 – a revision of the game featuring new puzzles and tougher dungeons to tackle – the game was once again thrust back into the spotlight with a remastered – and, dare we even say, definitive – edition for the 3DS. As well as rendering the Hyrule in stereoscopic 3D, *Ocarina Of Time 3D* made subtle improvements to the gameplay, with full use of the console's touchscreen for item selection, and gyroscopic technology to offer motion-controlled aiming. It also came packaged with both the original Nintendo 64 and *Master Quest* editions of the game, as well as a boss rush mode. In short, it's a superb versatile update of a classic that highlights just how far ahead of the curve the original was at the time.

The muddy Nintendo 64 visuals may have lost some of their magic since the game was originally released, but that's never been *Zelda*'s formula for success and it never will be – as *Breath Of The Wild* proved when the Nintendo Switch launched. The mark of whether a game is good or not is always judged by reflecting upon the journey it's taken you on. No game series on any format proves that better than *Zelda*, and few games, if any, offer a journey as timeless as *Ocarina Of Time*. It remains as enchanting to play now, as it did the very first time we experienced it. A true videogaming classic in every possible way, we'll never get bored of it.

FLASHBACK

GOTTA CATCH 'EM ALL!

BY THE LATE NINETIES, THE ENTIRE WORLD HAD BEEN CAPTURED BY AN ARMY OF 151 IRRESISTIBLE POCKET MONSTERS. LET'S TAKE A CLOSER LOOK AT THE PHENOMENON OF THE DECADE...

WORDS BY TOM REGAN

» *Pokémon* trading cards were a hot topic on Nineties school playgrounds and beyond.

Like all great things, *Pokémon* was an idea born from mud and dirt. The brainchild of one Satoshi Tajiri, he spent his Tokyo childhood chasing bugs in Machida parks, fascinated by the idea of collecting and cataloguing as many insects as he could. The other kids at school ribbed him for his obsession with creepy crawlies, calling him 'Dr Bug' – but ultimately, Tajiri had the last laugh. As he grew up and swapped his bug-catching nets for computers, Tokyo's once luscious parks were replaced by concrete, and the bug-filled habitats Tajiri explored in his youth were paved over. Tajiri vowed to recreate his childhood passion for a new generation, channelling his youth into an ambitious creature-collecting videogame. Its name? *Pocket Monsters*.

While Tajiri might not be a household name, his creation certainly is, with *Pocket Monsters* – since shortened to *Pokémon* – now the most successful media brand in the world. While the colourful franchise now adorns backpacks, toothbrushes and parade floats globally, it all started with a monochrome RPG on Nintendo's chunky Game Boy. When Tajiri's studio, Game Freak, unleashed its pixel art Pocket Monsters in Japan, few could have predicted the global phenomenon that they would become. Hitting shelves in the form of *Pokémon Red & Green*, these 1996 role-playing games crammed a world full of adventure inside an 8MB cartridge. Placing players in the shoes of an 11-year-old boy leaving home to become a Pokémon Master, this sprawling epic captured the excitement of saying goodbye to childhood and venturing into the adult world. As players caught, befriended and battled their chosen Pocket Monsters, they grew in strength and evolved into something even more magnificent, adding an element of wonder and mystery to the Pokémon-catching extravaganza.

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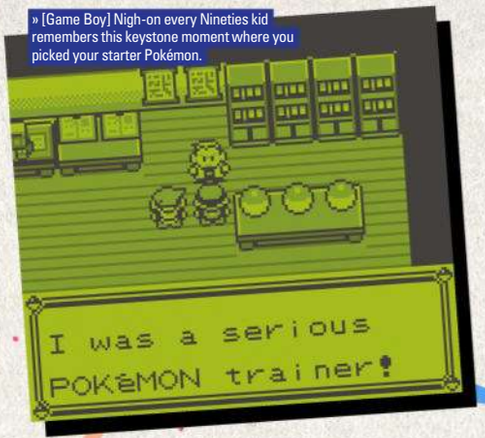

» [Game Boy] Nigh-on every Nineties kid remembers this keystone moment where you picked your starter Pokémon.

The Game Boy RPGs were a hit, with *Red, Green & Blue* shifting 1.04 million units combined in Japan in 1996, and another 3.65 million in 1997, beating SquareSoft's *Final Fantasy VII* to being 1997's bestselling videogame. Yet it wasn't just *Pokémon*'s relatable coming-of-age adventure that captivated millions – but its vast array of adorable creatures. With 151 of the delightful Pokémon to collect, each of these unique creations became a beloved entity in themselves. From the fire-breathing Charmander to the electricity-exuding yellow mouse mascot Pikachu, every Pokémon was destined to be some little boy or girl's favourite.

Much like the sprawling adventure in the game, Pokémania couldn't be contained to one location. With *Pokémon Red & Blue* hitting America and Australia in 1998 and arriving on European shores a year later, the monochrome RPGs once again became a phenomenon, their iconic creature designs capturing the imagination of millions of children. In the first two weeks on sale in the US, *Pokémon Red & Blue* shifted a staggering 200,000 units, selling 4 million combined by the end of 1998, and 2.5 million copies in France in 1999.

» *Pokémon* was an instant success worldwide after proving itself in its home turf of Japan – and that dominance isn't slowing anytime soon.

» [Game Boy] Despite the child-friendly conceit, the debut *Pokémon* games were deceptively deep RPGs.

Pokémon was a sales juggernaut – yet its success wasn't just confined to the Game Boy. Shrewdly, Game Freak, Nintendo and Creatures Inc recognised the franchise's wider potential, launching an anime series and collectable card game alongside the virtual RPGs. As boxes of *Red & Blue* flew off the shelves in game stores, the anime invaded TV screens globally, its earworm of a theme tune becoming an inescapable fixture at children's birthday parties at the end of the Nineties. Yet it was the trading card game (TCG) that really helped establish Pikachu and co as cultural behemoths. With booster packs of the cards flooding newsagents, malls and market stalls worldwide, suddenly, everyone could collect Pokémon, even if they couldn't afford a Game Boy. In fact, kids' desire to catch 'em all became a problem, with many schools across the world banning the TCG due to children stealing and fighting over the coveted cards.

In just a few short years, Pikachu established himself as one of the world's most recognisable characters, standing toe to toe with Mickey Mouse, Hello Kitty and Mario. Thanks to the unprecedented success of the anime – a Japanese medium that previously hadn't made much global impact – a new *Pokémon* RPG on Game Boy arrived, more closely mirroring the anime's plot and starring the shocking superstar Pikachu – 1999's *Pokémon Yellow*.

It's no surprise that *Pokémon* now sits comfortably as the highest-grossing media franchise ever. We now live in a world where you can literally compete to be a Pokémon Master at the Pokémon World Championships or buy enough *Pokémon*-related merch to bankrupt a family for generations. Ultimately, it was the multimedia assault that ensured that *Pokémon* was an impressively social playground phenomenon. Now, 30 years on, it's a franchise that is more popular than ever – and it seems that Satoshi Tajiri has managed to catch us all. ✱

» Many collected the cards simply by the virtue that they were *Pokémon* merch and had cool art, but the trading card game itself was robust.

MEDIA INVASION

AS THE SONG GOES, WE ALL LIVE IN A POKÉMON WORLD. THESE ARE WHAT DEFINE IT

POKÉMON RED & BLUE

The Game Boy games that started it all, *Red & Blue* (and *Red & Green* before them) offered a world of adventure inside of your pocket. From innovative link cable features that let players trade Pokémon to the elegant battling and type matchups, these iconic RPGs laid the foundations that still define the games today.

ANIMATED SERIES

Where the monochromatic Game Boy games spurred children's imaginations, the anime brought the world of *Pokémon* to life. From its iconic theme tune to a cast of lovable characters, the anime cemented Pikachu and Ash Ketchum as pop culture icons, spawning 26 seasons and 23 animated films to date.

TRADING CARD GAME

For all *Pokémon*'s multimedia success, it's the trading cards that make *Pokémon* such a hugely profitable franchise. With people collecting sets, hunting down rare shiny cards and carefully crafting decks to battle their friends, the TCG only goes from strength to strength, even spawning card-filled videogames of its own.

POKÉMON YELLOW

After the games inspired an anime, the franchise came full circle with 1999's *Pokémon Yellow*. Starring Pikachu as a starter Pokémon and featuring familiar faces from the TV series, *Yellow* followed the same structure as *Red & Blue*, having players befriend Pikachu in a story that echoed the TV show.

THE MERCH

From plushies to Pokédexes. Plastic Poké Balls to lunch boxes, the Nineties were filled with more Pokémerch than you could shake a Sudowoodo at. Since then, *Pokémon*'s merch empire has only grown, spawning several Pokémon Centre stores in Japan. If there's a product you can think of, there's a *Pokémon* equivalent.

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ULTIMATE FLASHBACK To The 90s

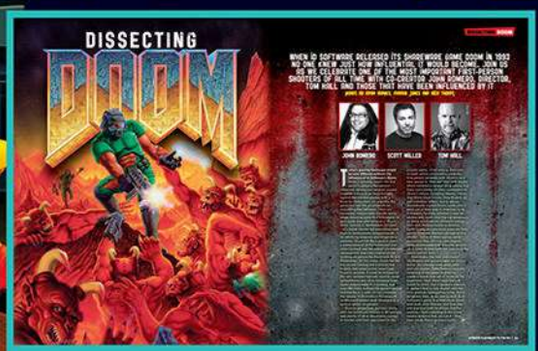
JOURNEY BACK IN TIME TO GAMING'S MOST EXCITING DECADE!

DEFINITIVE GAMES

From the lovable Lemmings to Link's grand Hyrule adventure in *Ocarina Of Time* and beyond, experience the best games of the decade

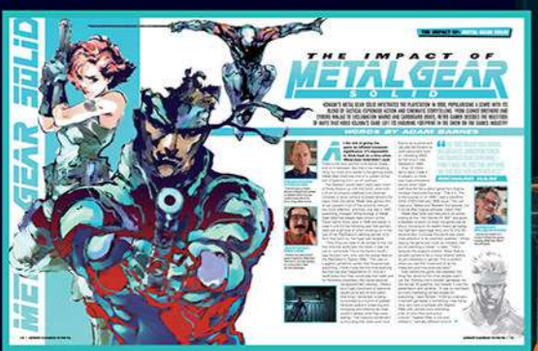
THE CONSOLE WAR

Sega or Nintendo: which was your tribe in those unforgettable playground trash-talk scuffles? Read the full report on the console clash here



THE BIRTH OF THE FPS

Get up close and personal with the most important first-person shooter in history, *Doom*. Bring your shotgun



VIDEOGAMING GROWS UP

Chart the rise of cinematic 3D gaming and discover why modern games trace their lineage to Hideo Kojima's remarkable *Metal Gear Solid*

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